



FRANCISCUS DELEBOE SYLVIVS, *Medicinae*
Practicae in Academia Lugduno-Batava Professor.



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NEW IDEA

EX OF THE *done*

Practice of Physic;

L. D. Written by that Famous *D. J. Nairn*

FRANCISCUS DE LE BOE, SYLVIVS;

Late Chief Professor of Physic in the *1670*

University of *Leiden.*

A.P. d. 2 THE FIRST BOOK,

Of the Diseases either constituting, producing
or following the Natural Functions
of Man not in Health.

Wherein is containd, beside a New Method
in general, a Vindication of the Spleen and
Mother from Fits attributed to them.

As also a new Discovery of *Intermitting Fevers*,
the *Yellow Jaundice*, and other Diseases,
never before discoverd.

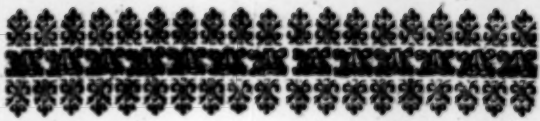
All clear'd by Anatomical Experiments, and Chymical
Demonstrations; As also by their Cures.

Whereto is prefixed a Preface written by
Dr. Mar. Nedham.

Translated faithfully by RICHARD GOWER,
formerly Student under the Author.

LONDON, Printed for *Brabazon Aylmer*, at the
Three Pigeons in *Cornhil*, 1675.




*To all the Supreme Powers in
 Christian Europe, FRANCIS-
 CUS DE LEBOE,
 SYLVIVS, Physician, wish-
 eth perfect Health of Body,
 and Mind, and also faith-
 ful and quiet Peace, from
 God the giver of every good
 Gift.*



He toilsom labour which I have
 undertaken to endure for the
 common Good of all Men
 in the adorning of Physick,
 Part wherof such as it is, be-
 ing brought forth and publiht
 as occasion was offerd, I thought fit to De-
 dicate, not to one Prince only, but to You

The Authors Dedication.

all, as being the High Lords of Earthly things in this part of the Universal Orb, wherein I am born and live, to whom I doubt not but that Your Own, and Your Subjects Prosperity is Your desire and care. Beseeching the Good and Great God with my whole Heart, to inspire You with an ardent desire, and constant will, that Physic should be perfected (as yet deficient in many things) by the pains of excellent Physicians, who live under Your Power in many places, it being useful and necessary that our Course should be happily finish't upon Earth.

Hitherto I have endeavour'd to do something, to the measure of my Ability, for the good of the Common-Wealth: But who can expect so great a Work of one Man, and that privat, and therefore destitute of infinit necessary Helps to perform so immens and hard a Matter? But so much me thinks I have profited in the Art of Physic, by a continu'd painful Labour almost forty years, that I now dare boldly affirm, the Structure of a more perfect Edifice of Physic may be erected, the Authority and Munificence of Princes being employ'd with many industrious and judicious Physicians, so much the more desirable

The Authors Dedication.

sirable and to be wisht, as by how much Princes no less then Subjects do need its help, being afflicted unto Death with so many, so grievous, and those not as yet enough known Diseases, and therefore so often esteemed insuperable.

Neither doubt I, but in a short space a rational and certain way of Physic may be found out by the propos'd Method, if not in all, yet in the most Diseases. For which end I here offer publicly my weak Pains, if acceptable, to You, by Divine Authority set over the Government of others, out of sincere love of farther deserving well of the Common-Wealth, seeing that it pleas'd the Clemency and Wisdom of God, of mere Grace, not only to free me beyond my expectation a year agoe from a most grievous Disease, and in a manner from the Jaws of Death, and to restore not only former strength of Body and Mind to me, but farther to illuminate my Mind more, and hence so bountifully to consent to my Wishes, that entrance hath been made daily to me more easie, and farther, to the dark and deepest retirements of natural things.

The Authors Dedication.

Now, the same God for his unspeakable Mercy and Goodness towards Mankind, direct your Thoughts and Counsels to the eternal Glory of his Holy Name, as also to Your own, and Your Subjects Health both Temporal and Eternal. *Amen.* Which is my hearty Prayer.

Leiden, April 14.

1671.

To

To the Reader who is studious of Truth and Public Good, *Franciscus De Le Boe, Sylvius*, wisheth Health.

AS often as any Men do endeavour, in any kind, to afford any thing that conduceth to the benefit of of the Publick, they have in all Times been thought worthy of the favour and benevolence of Great Men; but when they do indeed promote the Publick Good, they deserve moreover to be rewarded in a well-order'd Common-Wealth: wherein, as Cicero saith, Rewards are by the Laws proposed to Vertue, and Punishments to Vice: Therefore if at any time their excellent Performances are not only envied by Men idle and malicious, but perverted by prating Cavillers, accused by Parasites that have little else to do, and traduced by slanderous Calumniators; so often those who are in Government have taken care, that they should be neither neglected nor despised. That

The Author

That I may apply these things, though but in part, to my Concerns, there are so many ridiculous and unjust censures of my Enemies, oftentimes pretended Friends in the United Provinces, especially through a false Prejudice, or Envy, or Hatred of my Words and Writings, that I scarce know whence to take a fit beginning for my Preface.

For, I so much esteem my own peace, that unless I had already venturd, and something were already publisht by me; which nevertheless several good Men favouring the Common welfare do approve here and elsewhere beyond my expectation, though my Adversaries chafe at it; perhaps I should have prevented by silence the manifold Cavilings and Calumnies of Ill-minded People, which have hitherto befallen me, and were foreseen by me.

Wherefore I intend to publish some of mine Endeavours and Labours, lest many should think I am brought to a perpetual Silence, by the vain Threats and injurious Calumniations of malignant Men, because this Book, such as it is, hath been slowly finisht, and now also publisht.

For, after that I being mov'd with love to the Common-Wealth, took in hand the Professorship of Physic above thirteen years since, which was more then once offerd to me in this Academy (although with a great deal of dammage to my
private

to the Reader.

private Concerns) thought this Business was given me, that I should teach mine Auditors not a few things observ'd, by me for many years privatly, amongst my Patients, and otherwise; but even those things which were daily further to be observ'd, as also thence solicitously concluded, and deduc'd by a continued reasoning, and so both profitable and useful to Mankind.

Wherefore, that I might rightly do my Duty, I spent Days and Nights both in calling slowly back into my Memory what I had for a long time consider'd, and had accuratly examin'd and noted, and also in conferring the past with following Experiments, daily made at my own Cost for common Good, as well in drawing thence Conclusions and most solid Determinations to cure the Sick, as in informing the studious Youth (that came hither in a great number to hear me) faithfully about those things, which I judg'd were both true and good, and also in a right forming of them, according to Art, for the Practice of Physick.

Nor was success through God's assistance wanting to mine Endeavours undertaken in the fear of God, and love: whilst Letters came from my Scholars daily, thanking me for the benefit receiv'd, who practis'd happily at home and elsewhere. But, as in Mans Concerns nothing is wholly blest, I have not been free from Envy,
Ca-

The Author

Cavilling, evil speaking of malign Men, or such as hated me, and whatsoever the Devil, that perpetual disturber of Mans Tranquillity and Happiness, uses to suggest to his Servants.

I will not farther enlarge with words upon the manifold ill-will and evil-speaking of mine Adversaries for some serious Causes, being content at present to mention in a few words the detriment which is brought upon the Common-Wealth by the Cavils and false Accusations of some.

Whatsoever singular Gift of Mind, Body, or Fortune, everyone hath receiv'd of God, (And I pray you what has any Man, which he hath not receiv'd from Above ?) he is bound to employ it, acknowledging the Giver with an humble heart; to the common Good and benefit of Men, never to any ones loss or detriment.

Which common good is promoted, both by searching out the Truth obscur'd as yet in sundry things, or by illustrating it more or less hid, and by manifesting it to others; and by searching out any Profitableness coming or likely to come from things known to Mankind, and by calling into use what is invented, and communicating it to others.

He that doth this, is wholly to be esteem'd for an excellent Citizen, whose Vertue the Parent of Roman Eloquence judg'd worthy of Imitati-

to the Reader.

on and not Envy. And indeed they are to be praised who emulate, and not at all to be blamed who endeavour to overcome the Vertues and good Deeds of others ; on the contrary they are to be abhord, who maliciously cavil, or contumeliously slander the profitable Words or Deeds of others, as oft as they cannot equal or exceede them.

It is moreover the property of these truly miserable People, that they first envy good People, and strait-way become evil-speakers, being before ill-will'd.

As many therefore as are perswaded, or think that they can excel others in Wit, Judgment, Memory, Dexterity, or pains about any things whatsoever that are to be done, and are desirous of Splendor and Glory, (seeing that so many things are as yet obscure in Nature, and coverd in thick darknes) they have an opportunity to wax renown'd with the celebration of their Name, if they would discover with an incessant labour, and continual industry, and bring to public light many of these things as yet coverd, and so serve the Common-Wealth.

But they who have not sown with much labour and expect a great Harvest, for the most part are fed with vain hope ; whence they grieve and sorrow by degrees, whilst they see others in the mean time enjoy the deserved Glory, which they being Pretenders would have conferrd
upon

The Author

upon themselves, or at least remov'd from those they envy. Wherefore the Study which they ought to take in acquiring Glory about honest Arts, they almost wholly spend in Carping, Biting, Corrupting, Confuting, and Defaming other Mens Words, Writings, or Actions profitable for the Common-Wealth, whereby they deprive them of due, and sometimes attributed Praises, or at least extenuate and diminish them.

For this same reason, though they oft enough harm good Men, (for it is the custom of most Men to give heed to the Publishers, and more to the defamers of other Mens Praises) yet for that reason there redounds none to them, or Profit to the Common-Wealth.

For although many joy in Cavils and Calumnies tending to the dishonour of Good Men; yet ought they also to hate Cavillers & Reproachers, (were they prudent) because they likewise know that they are in danger of them: as great Ones are said to love the Treason, though they hate the Traitor.

It is so far unlikely, that any profit should besal the Common-Wealth by Cavils or Calumnies whatsoever, that contrarily many are affrighted by them from propagating their Inventions or Observations with a notable loss hercof, which otherwise might serve the Public; and being made more cautious by others or their own
danger.

to the Reader.

danger, they had rather that those things should perish with them, (as I have experienc'd it often done to my grief in several cases) then be unjustly traduc'd by mocking Censurers, as being ignorant of those things, or be scurrilously toss'd upon the Tongues of Vain and Evil Men by means of these Bablers: which will be, as long as it shall be lawful that any injurious Man may impudently rail at good Men, and find favour with his flattering Tale among Rulers, in that not very wise nor prudent.

Hence it coms, that God out of his unsearchable Wisdom, would not that many things, which as yet are hid from us, should be found out and brought to light always at once, but by degrees, and at times, not by one, but by many.

And as all good Men deservedly praise Ancient and Modern Authors, who have only in part seen many things, and have not thoroughly seen every thing, much less all; yet because they have left to Posterity as much as was known to them, so they think (because it is easier to add to what is invented, then to invent what is unknown) that all do what is worth the while, who but a little promote the Bounds of Sciences and of Arts; and therefore it seems not only unworthy of any that desires the Name of a Learned and Honest Man, but unjust also, and injurious to Good Men and the Common-Wealth, presently

The Author

to taunt or defame those wickedly, who even now according to their power, do at least endeavour to make or show a way to discover more things coverd, or to illustrate Obscure Things, or find out Profitable Things and bring them forth to the common use of Men; and much more those, who actually do this, and liberally communicate their useful Observations to others: seeing it should be the Good of the Common-Wealth for which all should by any means be stir'd up to do more and greater things, yea others should be joind to them, who also would put to their helping hand, and share with those both in Pains and Praise, who already have and do deserve well.

But because it is irksom and grievous to delicate or otherwise lazy Men, to stoop to handy-work, it is on the contrary more pleasant and easie to prate with a voluble Tongue, most Men being vain-glorious and seeking a little praise, though in a trivial Matter, whereby they do disturb and by their importunate talking daily more obscure those things, which they know not, nor will illustrate by assiduous labour. For as they are not accusom'd to great Labour, so neither are they given to it. Therefore they do worst employ their Pains, to be able to babble about every thing problematically on either side as they list, and not to excel in endowments of Mind or Body,

to the Reader.

dy, to perfect any difficult Work, or to unfold, explain, or determine doubtful and intricate Matters.

Mean while large Gifts are often bestowed on such Great Praters, and Annual Stipends for their vain and flattery-Talk; which the Inventors of good things do for the most part want, being more studious in searching out the obscure and hard things themselves, then to propose them with handsome words, or in a servile manner to curry favour.

What I have before said, will be more manifest by an Example. It is wonderfully now controverted in our Art of Physic, about the Manner, Motion, and Use of Choler in Mans Body. Where I freely acknowledg, as I have testified often both in public and privat, that I cannot fully satisfie my self hitherto in this Matter, and indeed partly by the defect of certain Experiments requisite as yet to resolve some Doubts even now urging me; partly because of sundry Experiments not having the like success in all, nor at all times, but as it were sometimes repugnant one to the other.

Wherefore it were to be wish'd that they, who have more leisure then I, would take necessary pains both in finding out, and in making accurately manifold Experiments, that so they might

The Author

take away all Difficulties that may molest any, and so preferring the true and plain way of preparing it for Motion and Use in Man to their own Honour, and the Common-Wealths profit.

Whoever will try to effect this, shall have my praise ; but who-ever performs it, shall moreover have me to be his faithful and certain Follower.

I have endeavourd, with a great adventure to set forth a New Idea of Physic by mine own manifold Observations ; which I have begun to communicate candidly in the simplicity of my Heart, first to mine Auditory, then to all, seeing my study of deserving well of the Common-Wealth, has pleas'd many Famous and Illustrious Men in our Art.

And when I observ'd that for this cause the Malign Cavillers, and Reproachers, waxed hot and rose up against me, I was necessitated to proceede cautiously, least any thing should fall from me by imprudence, or hasting, which ill-speaking Men might deservedly carp and slander.

And among other Causes, this also hinderd the composing and publishing of this Book ; by which I judg the Public gets more Profit. For I attend as much as my Business, and continual
D:

to the Reader.

Distractions permitted me) to every thing more diligently, and weighed them more accurately and longer, and have confirm'd the most things more clearly by manifold Experience, which before in part at least were evident to me only by wonted reasoning; so that now I appear in public so much the more secure and heedfully with my Meditations and Observations.

I could indeed have brought out of my Store both more, and perhaps more perfect; as also greater, and more abstruse, and therefore better and more profitable things, if God had given me desired leasure to do those things, which is scarce at any time to be expected of Men. Nor did I judg it equal, that I in these Belgian Provinces wisely addicted to frugality, should be too much and perpetually negligent of my privat Estate, and give for nothing almost all that I have brought forth by incredible Labour, least new Curators should be chosen to over-see me against my desire for the Good I have newly done so freely, as though I had been a Prodigal and carri'd my Matters ill.

Mean while I testifie before God, the only Searcher of Hearts, that I have not Written or Taught any other thing here or elsewhere, than what seem'd to me true, or most like to Truth, and chiefly profitable to the Sick. For upon

The Author, &c.

these accounts I have never with-held or shund any, yea not the most troublesom Labour; I spar'd no Cost, often great enough for my Condition. The which Charity of mine, the most Merciful God bountifully favouring, has more then once graciously requited, and without doubt will yet farther recompence in his own time, what all sorts of ungrateful Men, though from them due, have often deni'd or turn'd from my Merits.

God grant that, as I have written these Things to serve Young Beginners of the Art of Physic, and (hence by their help) the Sick themselves, all these things may tend to the good of them both.

Leiden, April 14.

1671.

To

To the Gentle Readers and Printers, the Admonition of Franciscus de le Boe, Sylvius.

Although I do not much esteem my Works, yet would I not that they should be publisht any way corrupted by any Body whilst I live and without my privacy. Wherefore, that I may consult with mine own Honour, and the Profit of the Commonwealth, I would have all admonisht, that I in no wise acknowledg that Edition for mine own, which *Thomas Matthias Gotzius* publisht in the year 1664. under my Name, and of the Colledg of Practical Physicians: nor that which I hear *Frideric Leonardus* hath publisht this Year 1671. at

Paris under the * Title of my Practice: Much less that infamous and foul Book, which some ill-employ'd busie-Body wrote and publisht, out of his own wicked

* Which how deficient it is from Chap. 40. Sect. 47. to the end of the first Book, let any that have that Copy compare, this being no further publisht at that time by the Author.

Store and impure manners, a few years since, under the Title of *The Second Part of Physicall Disputations concerning the Circulation of Seed, and the Generation of Man*, imitating my stile whereby he might fasten it upon me, and therby injure my Reputation.

To the truly Honourable

ROBERT BOYLE Esq.

S I R,

YOur most profound and singular Learning, together with your sincere love to all Persons and Things that any way tend to improve or promote the Interest of it in the World, especially those kinds thereof which tend most to Practice, and are most useful and profitable for Mankind; As also your great Candor and Ingenuity in pardoning or excusing the Lapses and Inadvertencies of Humane Infirmary, induces me to make this bold but humble Dedication of my Labour in this Translation of this Praxis of Sylvius, Chief Professor of Physic in Leiden my Quondam Tutor.

Not imagining you are unacquainted with the Contents, much less that it can add any thing to your Stature; But your Noble Patronage may be both needful and useful to me, who cannot be so much a Stranger to the Epidemical Distemper of the present Age, as to think my self secure from some carping Zoilus, or the calumny of some strait-laced Physicians, that would rather the whole Science were ingrossed to the hurt and injury

To Robert Boyle Esq.

injury of the World, than that the Power and Virtue of the Art of Medicine should be promoted and divulged, and thereby flourish in a publique Benefit; whereas common Good should be the prime intention of every Man, and will certainly be so of all Spirits truly generous.

The worthiness of the Author, and high esteem he hath very deservedly acquired, by not only his Learning, but also great industry and Indefatigable Pains, rendering himself Eminent among Judicious and Industrious Spirits; Being conscious also of my own design to do him right in the Translation, and acknowledg my high respects to your Honour in the Dedication, and in both to serve my Countrey, makes me the more presumptuous to offer it to you, as the fittest Person, craving your Pardon and Acceptance; Which will be a perpetual Obligation to

Your Honours most humble

Servant,

RICHARD GOWER.

TO THE
READER.

THe Translator of this Book, when the Translation was even quite finisht at the Press, was sent to me by a Gentleman, one of the most Learned in this Isle of *Great Britain*; with a desire, that if I liked the design of Publication, I would own it so far, as to give my Opinion about it to the World. Should I name that Learned Person, there is none of the most stiff Philosophers of the Time, but would perhaps bow the Head at the bare mention of his Name; and therefore it will be Apologie enough for me in what I do, that I thus pay Obedience to his Desires, which I ought to entertain as Commands upon me, in this Declaration of my Opinion.

The Truth is, nothing could have been offer'd more welcome to me, in regard of the worthiness of the Author, and of the Work it self, wherein he hath done the World more Service, towards the promotion of the Art of Physick, than ever any Man did before him in the *United Provinces*; And in such a manner, that he doth not, as some here in *England*, trifle away all time and patience in labour'd Discourses, more fit to tickle the fine Ears of a Speculative Auditory, out of the Chair of an University, than to edifie Men engaged in Practice: But like a wise Practitioner, so orders the Matter, that his Sheets may sinell as little as may be of an *Academick Professor*; for, the infection of those places is so strong, that
Men

To the Reader.

Men used to Philosophizing there with Niceties, and conjectural Probabilities, are wont, when they come abroad, to sinell rank of it ever after in all their Writings and Discourses; and so doth *Sylvius* in some Particulars. Their manner is to abound with Notion; for which having been admired by the Men of Letters in the Academy, they all believe they may set up for Authors of Science; though (when they come into the World) they generally prove mere Slow-Men at Business; yet they pass as great Men among some Learned, and the better sort of Men Unlearned: for, the World will still be for Learning (so reputed) in Men of Physick, not being able to judge, whether that which is acquired in the usual way of Education be learning to the purpose.

To give you a more particular Account of *Sylvius* the Author, take what I have received from the Ingenious Translator, who had the happiness to be a Scholar of his. He was by Birth a *German*, who through industry arrived to such degree of merit by working and practice at *Amsterdam*, that his Fame spreading about the *Low Countries*, the States of *Holland* cast an eye of great regard upon him, and placed him (though a Stranger) in the Professors Chair in the University of *Leiden*; which he afterwards adorned for almost thirteen years, by forming many useful Doctrines (not mere formal Points of Literature) for the Institution of young Beginners in Physick; of whom a multitude were by his Reputation drawn thither from all parts of *Europe*, to be his Disciples: such Doctrines as have not had their Rise from the Ancients, and the Academies, but most of them from Laboratories of his own and others, wrought out of the Fire for near forty years together, and confirmed by constant Practice among the Sick;

To the Reader.

Sick ; in which Work of Curing he excelled all his Fellows, in the most difficult Cases : Yet because he had recourse mostly to *Chymical Remedies* (of whose safety and excellency the World is now convinced) the more lazie Tribe of Doctors made it their business most maliciously to calumniate and traduce him, as you will find him miserably complaining in many parts of his Book ; of whom he saith in 40th Chapter, that they be ignorant of most Natural Things, yet are a prating Crew, that strut about and swell inani Doctorum Titulo, with the vain Title of Doctors : they are his own words of them, and the World hath too many of them, though they and their Credit wear off apace. So that now in this discerning Age, seeing the Pedantry of their Breeding, the Leigerdmain of their Philosophy, the *Theatrical Mountebankerie of needless Niceties in Anatomy* (about which they perpetually quarrel, and puzzle one another) are like to prevail no longer, to gain admiration among the great Vulgar, or the little ; and it being found, that to Industry in operating one grain of Prudence being added (such a Prudence I mean, as is in an Apprenticeship improved under a Practiser, and by an in-sight into Practice from ones youth) will weigh down all the *Schools* in a sick Mans Chamber ; therefore they are constrained to have recourse to other Arts, to uphold that Tottering Dominion which they have long held over the Phanxies of the People.

To say nothing of their Flatteries among the Great and the Rich, besides the Calumnies that they sow against other Practitioners, the frequentation of Clubs and Tipple to gain Acquaintance, the glosing Collusions and fine Tales with Nurses, Midwives, Women and weak People ; the Confederacies to cry up one

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one another with *Dollissimo* and *Clarissimo* in Prints, the creating & canvassing of Interests in Families, and the common *chequenerie* of Consultations only with Men of their own Tribe; the most remarkable Trick of all is, that they have an Oar in the Boat of every Party round the Town and Nation, having listed themselves accordingly. Some are for the Church of *England*; some for the Church of *Rome*; some for the *Presbyterian*; some for the *Independent*; some among the *Baptised*; some for the *Fifth-Monarchists*; some for the *Quakers*; every Man for himself, and God for all: And so the World is very luckily divided; every Party taking its own Profelyte to be the Ablest, and the most Conscientious Doctor. Is not this a short Cut (think ye) to get Custom? This and Scholastick Twattle will do the Work, according to the general Mode of their *Second Commencement*: after which, the few Men of no Party, whatever their Industry and Art be, are left to be turn'd to grass upon the cold Common of Integrity.

But in this latter Age, the great Pranks they play now are by mounting the Stage of *Anatomy*, (for that pass 'tis now come to) where many of them are wont ever and anon, to make wondrous Ostentation of pretended new Discoveries in the little World of Man; with which they have a *Mint* always going, for coining new *Hypotheses*, out of which they start up their various *Dogmaticisms*, to amaze their Admirers, and amuse the World; so that the very Neighbours Dogs are in as much danger of their *Shambles*, as they are of the *Falconers*. And though it be ridiculous enough to prudent Men, yet when the part is acted it gains upon many gentle Spectators, be it in Print, or in open Lectures; so that they come within the reach of that *Motto* in the Duke's Theatre,

To the Reader.

tre, *Univerſus Mundus exerceet Hiſtrioniam.* And beſides this, it ſerves for divers purpoſes more: Concerning which give me leave, becauſe it may be of uſe, to make publick here what I not long ſince privately wrote upon an eminent occaſion, thus.

'Tis a common trick among the Tribe of Diſſectors, to open Bodies of their own or other Mens Patients, in pretence to ſatiſſie themſelves, and the deceaſed's Kindred touching the cauſe of Death; and thence they always pick out enough before the admiring By-ſtanders, to juſtifie themſelves and their own miſtakes, by reaſons to prove that the Patient was incurable: or elſe they will be ſure to collect dirty matter enough, to caſt upon any Phyſician whom they envy, whoſe hap it may have been to have given Phyſick before them to the ſame Patient; eſpecially if he be not of their Honorary number: hundreds of able Practitioners and Learned, have been thus artificially blaſted: So that it were well if this famous City of *London*, would take Notice of ſuch crafty Abuſes for the future. For, though ſometimes, when upon opening of Bodies, the internal parts appear decayed or corrupted in their Tone and Subſtance, 'tis manifeſt then what brought on Death; yet not ſo at other times, ſeeing moſt Diſeaſes lying in the variations of Blood and Humors, Spirits and Ferments of the Parts, are in their Cauſes remote from ſuch ocular inſpection, let none in theſe Matters be gull'd hereafter. For, that nothing certain can be concluded from the ſtagnation of Blood, or other Humors found in any place or paſſage of the Body after Death, is evident in this, that Nature upon Death's approaches, being driven to moſt violent motions, doth extravagate, intravagate, throw Blood and Humors in and out, here and there and every-where, *Cap-a-pe*,
through

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through the most abstruse and unperceivable Passages. So that if stagnant or coagulated Blood or other Humour, be found in any part by Anatomizing, it cannot be concluded it was so before death. For it was well said of old by *Celsus*, the most prudent of all Physicians, in his Preface, *Neque quicquam esse stultius, quàm quale quid vivo homine est, tale existimare esse moriente, imò jam mortuo* : which is in plain English ; That nothing is more foolish than to imagine, that things within a Man should be in the same state when he is dying, as they were when he was living, much more when he is actually dead.

From hence also observe, what mistakes Physicians may be led into by blind supposals and conjectures of Blood or other matter lodged in this, that, or other secret Passage of the Vessels, or Bowels, to be causes of Diseases ; when they proceed thereupon to raise fanciful Doctrines whereby to manage practice in After-time, and order Cures by Calculations, *secundum ductus & Hypotheses Anatomicos*. No Man can be against a due enquiry into Anatomy, so far as concerns a being acquainted with the Structure, Figure, Scituation and Connexion of the Parts of the Body, especially in Cases of Chirurgery, wherein its greatest use doth lie ; and of this also it becomes a Physician not to be ignorant, who ought also to be a Chirurgian ; though the five-finger'd Academick Education of Physicians in *England*, hath here unhappily divided the two Faculties, the Professors of the one being brought up to Talk, the other to Work ; the one in their youth to speculative Philosophy ; the other from their very first youth in practical Drudgery, if I may so call it in comparison with the other : from whence 'tis observable, we are always furnished with far more able Chirurgians than

To the Reader.

than Physicians. Consider what greater Men ever had we in the World, for the old way of Physick formerly, than those that were bred up Chirurgians? *Galen* himself was bred a Chirurgian. And where now will you find among the *Galenists* of our Nation, Men for Physick to be named after those famous Persons bred Chirurgians; such as were *Pareus*, *Chalmetaus*, *Pigræus*, *Guillemeau*, *Ingraffias*, *Felix Wurizius*, *Fallopins*, *Vesalius*, *Carcanus*, *Severinus*, *Marchetti*, *Spigelius*, and the two *Fabricii*, one an *Italian*, the other a *Swisse*, viz. *Hildanus* and *ab Aquapendente*? whose Judicious Works and great Performances, made them renowned through the world. But now forsooth a Chirurgian with us is made so little a thing by our *Doctōral Confederates*, that when he hath a Patient, they expect he should not presume to prescribe any thing of Internal Physick for the promoting his Cure; though none can judge so well what is fit to be done as himself: so that if he gives way, he remains liable to the possibility of having his Work spoiled, either, by the ignorance, or sometimes the malice of another Person that knows little or nothing of the management of a Chirurgical Curation. Besides if our Chirurgians were excluded (as that's the desire and aim of the others) from the Practice of Physick, I wonder where his Majesty for his Fleets, and the Merchants for theirs, (on which the Wealth and Glory of this Kingdom doth depend) would be supplied with Able Practitioners for the Sick at Sea, the greatest sicknesses, both Acute and Chronick, being there predominant. Not from the fine breed of the *Scholastick Family*, whose Learning (so much as it is, and that is in but a very few of them) lies quite beside the way that leads to the more noble Family of Physicians; insomuch that
when

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when they first come to Town with the Learned *Cushion-Cap and Scarlet*, the very Apothecaries Boys are able to tutor them in Town-practice, laugh at them, and tell Tales behind their backs. Wherefore, seeing the *Juniors* are not fit to be trusted aboard with the Seamen, and the *Seniors* never did serve nor mean to do it, and nothing but another great Plague can send them out of London, Which way can the Sea, or, our Armies be served with Physick and Chirurgery, if *Surgeons-Hall* be not to be lookt on as a Colledge of Physicians? and for which of their good Services to the Crown, Kingdom, and City, will the other Society ever have the confidence to seek an Authority, to tuck the Necks of all other Physicians, Chirurgians, and Apothecaries, under the Girdle of their Jurisdiction? But 'tis to be hoped the Nation will ere long be convinced, that the Laboratory, the Work-house is the way to be traced before we enter the Library; an Apprenticeship from our Youth to work and study under a Practiser, is that only which can make one a Doctor: all the rest is but *flocci nauci nibili pili*, &c. Whereupon 'tis to be hoped also, we shall one day think it high time that a Reformation be thought of, that the present formal way (which none of the Antients knew) will be left, and our Youth for Physick, instead of being *Academians*, be bred up more *Mechanico*, instituted in the Operative, before they bend themselves upon the Contemplative and Philosophizing part of Physick. For *Aristotle* said well, *Nil in intellectu quod non prius in sensu*, Nothing lies right in the understanding, that is not first collected by sense: that is, by sensible operation. And *Celsus* saith, *Non post rationem inventam esse Medicinam, sed post inventam Medicinam rationem esse quæsitam*; That Remedies Medicinal

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cinal were not found out by reasoning; but reasoning came in play being sought out after Remedies had been found. From whence 'tis conclusive, That the sure Notions of Curing are those which Men form unto themselves: First, Not by Tradition of Authors, but by reasoning upon their own and others Experiments, whose Operations and Effects they have seen. But for Physicians bred the fine way, he saith, *Etiam sapientie studiosos maximos esse Medicos si ratiocinatio hoc faceret; nunc illis verba superesse, deesse medendi scientiam*; to wit, That your Students of Philosophy (meaning the old way of Philosophy) were the greatest Physicians, if reasoning could make them so; now that sort of Men abound with words, but want the Science of Curing. Yet they (he saith a little after) do bear away the Bell in the World, *Ingenium & facundiam vincere, morbos autem non Eloquentiâ, sed Remediis curari*: that is, They that have a witty knack of talk, prevail above others in the Opinion of the People, though Diseases are not to be cured by fine words but by Remedies. And therefore 'tis hoped the Magistrates, Nobility and Gentry of the Land, will accordingly steer their Judgment in the choice of Physicians, and one time or other give a helping hand towards a reforming of the Education of Men for the practice of this Faculty. This may serve also for an Item to our young Students in the Universities how to prevent the loss of time. 'Tis not a formal degree in Physick that will make amends for it, or give them satisfaction at last, if Men of Conscience and Ingenuity. And as for Anatomy, I do not declaim against it. A competent knowledge therein is most commendable and necessary in many cases, though a just Treatise may shortly evince to the World how little use it is of, in managing the Cures of most Internal Diseases,

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a Capite ad Calcem: and how little advance (as Mr. Boyle long since observed) the practice of Physick hath received by the *pretended novel Discoveries*: every Anatomist boasting like a School-boy, that he hath found out more Birds-Nests than his Fellows; and then he struts in Print with Disquisitions thereupon, though the Issue be, that none of them all there be, from the time of *Galen* to this day, but contradict one another: So that controverted Curiosities and mere Toys must needs be a *sweet* uncertain ground to take aim upon, in so serious a Work as the hitting of the Nature of Diseases, and their Remedies. And 'tis most ridiculous to observe what a clatter is made among us with Dogs, Cats, and other Creatures about the trivial Enquiries. Not that such Niceties are to be discommended in Gentlemen, who may spend their time that way, or in those who have little else to do but *Dissect*, and then to discourse for recreation. But *Hic est fundus calamitatis nostræ*, the Bane of the profession of Physick, that it attains so little Improvement in the World, is this; That while there is a manifest Faction driven among Professors to magnifie one another in these Matters, as if they were able to make a Man a Physician above others, and to establish the main ground for Students to build a Reputation upon, it proves an occasion of three sore Evils under the Sun.

1. That as all Men affect Repute in the World, so the young Seminary of Physicians thinking this the way to render them great and considerable in the Faculty, are inclined to follow that Tract, and in the mean time neglect courses more advantageous for themselves and Mankind.

2. Whereas many of the present Practisers, who make most noise with their Anatomical Rattles, being

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Men otherwise of pregnant Wit and Literature, might do great service to their Generation, if their Wits and Industry were set the right way, The contrary falls out.

3. Others growing up being perverted by their example, the *Materia Medica* lies too much neglected: the Improvement whereof is the *one thing necessary*. They ought rather to imploy themselves in the Anatomizing of all Natural Subjects, in order to the knowledg of their various Virtues, by resolving and educing the severall Parts and Principles of which they are composed, and in searching out their usefulness by reasoning upon the manner of those Operations by which they are prepared, and from thence calculating what uses they may be put to.

Alas, what a world of ground lies waste in the Field of Nature! how comly would it be, to see them spend their time in making further enquiries into Herbs and Roots which contain innumerable other Virtues than yet are known. Had we not been more beholden to Women and Rusticks, than to the Men of Literature, very little more had been known of them now, than was a thousand years agoe.

What shall I say of those wonderful numerous Treasures lockt up in the Bodies of Stones, Earths, Minerals, Metals, and Salts, which require the Hands of all Mankind to unlock? It were to be wished they would but bestow part of their time and ingeny in reforming the old Doctrines and Notions in Physick, not in substituting new ones drawn from mere *Hypotheses Anatomical*, but from the good old real Principles of *Aere, Acidum, Salsum, Dulce, Amarum, Ponticum, Acerbum, & insipidum*; wherein our *Sylvius* here hath pointed out part of the way, those things being by experience found to be the real

prin-

principal disturbers of Humane Bodies. The accommodating of Physical Preparations to the qualifying of those, when either of them is *peccant*, is the only way. And all the long Methods and Doctrines of Physick grounded upon other Notions, he that would be a Practitioner ought to lay aside, till he can find spare time to read them, as a Man would do to read *Romances*; which, if never so Scholar-like, serve only for prattle among such as having spent time the same way are wont to admire them.

And truly, had *Sylvius* kept himself in his Experiments and Contemplations, only to that way of Reforming, he had been much more honourable and fortunate in the improvement of our Faculty. But what shall I say to excuse his *raising some of his Doctrines by Anatomy*? I have no more to say for him but this; That being made a *Publick Professor* in an University, he was obliged to play Prizes according to the custom of Men in such places; whose Lectures are fitted for Pomp and Ceremony more than Use, wherewith the expectations of the Young and the Injudicious must be gratified, or else they will not believe themselves in the way to be well Instructed: Besides, of so great force is prejudicate Opinion in the minds even of the Rulers and great Men in some Countries, touching the value of *Anatomy* for Internal Cures, that they will hardly believe a *Publick Professor* merits his place, unless he render himself famous by Pretences of advancing Physick with some new Anatomick well-fancied Inventions, though nothing hath more confounded the Science: And how can it be otherwise, seeing 'tis so rare to find any of them agree about any one matter of this Nature, as I could most amply demonstrate, if I should fall to courting them in their Books. Which 'tis like I may

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do ere long, that there may be a correcting of Men's Judgments about them, and some end also be put to the estimation of this endless Butchery and Fockery; seeing one twelve-month well-spent is enough to acquaint a Man with what is necessary to learn by Dissection, for the Practice of Physick, either *Internal* or *External*; though it be but of little use, save only in this latter, viz. the most worthy *Art of Chirurgery*: which as it is the most Antient of all the Parts of Medicin, so, next after the Accomplishments of a Grammar-School, it ought to be the first thing that he who aims to be a Physician, should propose unto himself, and accordingly serve seven years therein to some Master, that is able to tutor him in the daily practice of it, and of Chymical Operations, and of Curing Diseases, as the only Method of Education, out of the common Road of an University, to bring a Man to be indeed a Doctor. Which Parents and Guardians may do well to observe, when they dispose their Sons or Relations, that their Brains may not be addled and hurt with the pride of Disputing, till the time comes that the Higher Powers have leisure to reform the Institutions of this noble Profession. It were easie, were it proper in this place, to make evident the necessity of my Advice, by taking a survey of *Univerſity-Statutes* and *Customs*, as in case there be occasion, I may hereafter. And truly, it would be a most laudable Design in the *Worshipful Masters of Chirurgery*, to fit and accommodate themselves herunto; and in the mean while not to undervalue themselves, but to take into their own hands their *Anatomy-Lectures*, that only what is necessary may be shewn there; which may be done as best becoms Men of Reputation, by electing Persons of their own number to be their Readers. If the
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Discipline of Physick were order'd as 'tis here intimated, how might they in a short time be able to furnish his Majesty for his Fleets-Royal, and his Armies by Land, with Learned Men both in Chirurgery and Physick!

But to return to *Sylvius*; had he been content to lay aside the Professorian vanity, he might have escaped with as good success in his Fame as any Man ever did; because he rais'd most of his Doctrines from Chymick Experiments, the great things that enlighten us in the Art of Curing, and verified them with pleasant and speedy Cures, by joining the use of Plants and Minerals together, both Chymically prepared, which hath rendred him worthy the reading and imitating: but he would needs follow the Fashion too, and erect a *Fencing School for Anatomy*; and what did he get by it, even many a broken Pate from his own Scholars, as well as others, (as he piteously complains in his 44th Chapter) of all which, none endeavour'd to help their Master, except *Regnerus de Graef*, who applyed a Plaster to little other purpose, than to get many a Knock also for his pains; for not only in other parts of *Europe*, but in *England* also the Fencers have had many a Bout with them, and buſtied to beat them and their *Triumvirate* quite off the Stage. And thus they all serve one another round, as 'tis most easie to do, for, there will never want cross-Instances in Anatomy for new Conjectures, and for mutual Confutation till Dooms-day. By which means, a marvelous scandal and dishonour is brought upon our Faculty, as if we had nothing certain among us: so that this only Consideration hath rendred me thus sharp, for redargution, that this kind of serious Fooling may be left off, lest it grow so ridiculous, but publick Authority shall at length be convinced, it

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serves no other countenance for scuffling, than such a Toleration as is given to the like Schools at the *Bank-side* and *Bear-Garden*.

I should here make an end, but that I would, being now unexpectedly in Print, beg leave to give a Reason, why I have been silent so long since the publication of my Book entituled *Medela Medicina*, which is now ten years ago compleat; for a little after the Publication of it, having heard some small Men of Note, and of Letters, were set on by their *Fraternity* to prepare Discourses against me, I thought fit to give notice then, in an Epistle before another Man's Book, that they must not expect any Reply from me to incompetent Adversaries; and so they appeared to be at last, to the number of no less than Four, who came forth after each other with several Books of pretended Answer; yet therein did not offer to undermine or touch so much as one of the *Pillars* upon which the main Structure of my Discourse was supported; which ought first to have been removed, if it could have been done, before the reputation of it could be ruined. But that being not to be effected, as their Leaders very well knew, because I had said little in my own Sense or Language, but chose rather to cloth my self with *Quotations* from Head to Foot, borrowed out of the Writings of the most Learned Men in the World, to render my self as invincible as might be; and in regard they saw they could not invalidate me without condemning my Authors, therefore it was warily done of them to decline an endeavour of solid Answer themselves, and to put the Task upon their Whifling Novices, who being Men scarce known, nor ever like to be to any purpose, could lose no repute though they published nothing worth the name of an Answer; while

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the other, standing behind the Curtain, reckoned it enough for them, to cry up in private every-where, that I had four Answers given which confuted me. And to this they added their crafty Insinuations in Discourses among the weaker sort of People, that I had printed all Men to have the *French Pox*: than which nothing could be more dissonant to my Discourse, which only shew'd what a wonderful alteration had been wrought in the whole Frame of Humane Nature by divers Accidents; and among the rest, by the gradual spreading and propagation of the effects of that Disease, by the several Ways and Occasions there mentiou'd, for almost these 200 years past: which I justified by the Testimonies of the most eminent Authors, who had found it to be so by manifold Observations in their long Practice. And as I had found it so in my own for above twenty years before that time, so after ten years time more spent since in Practising, I am so confirm'd in every Particular which I printed in that Book, that in the future Flux of Time and Experience, when Envy against me will be laid to sleep, those Men that may hap to read it will assent to its Truth. But as for the *Four Champions*, I say no more than this, I shall let their Names die with themselves; Two of them are gone already; the third (I hear) is often buried in Ale at a place called *The Hole in the Wall*; and the *Fourth* hath asked me pardon before Company, confessing that he was set on by the *Brotherhood of the Confederacy*.

Nor was this All; but the Design was followed up and down, by slandering, that I used dangerous Medicins, in regard I had in that Book magnified the good Effects of Remedies Chymically prepared, and their safety if well made, and their force above

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all other, in-Curation of the most pertinacious deplorable Diseases; of which I have lived to see the World, for the most part, so abundantly convinced, that the more ingenious sort of Mankind have concluded, that he who is not well-skill'd in the use of those Remedies, is not worth the name of a Physician. Inasmuch that the wiser Sort of the *Opposite Party*, when some years ago they saw the great Men of the Kingdom disposed, and had set their hands to an *Instrument*, for erecting a *new Society of Physicians upon the Chymical account*, they judg'd it their only Plea to be made use of, to divert that hopeful and most necessary Intent, to alledge in defence of their *Diana*, that Themselves were *Chymists*, and used Chymical Remedies as much as others; arguing thence, that it was needless to set up any other Society beside their own. Whereupon, we may take notice, that being then in a fright, their *allegation* implies, they were glad to confess the usefulness of that Way which their Predecessors were wont, in the time of my Youth when I first came to Practice, exceedingly to decry, and *noted with a black Coal* all those that used such Medicines; not sparing even the Learned and most Meritorious Men of the Faculty; such as Sir *Theodore de Mayerne*, who was Martyr'd once before for a *Quack* by the Colledge of *Paris*; and here also in *England* I have known some would then allow him no better a Title; to whom I may add that most worthy Man old Doctor *Rugeley*, and might name divers of like worth; who did no other than what *Greg. Horstius*, *Sennertus*, *Riverius*, and all Men truly Learned and Wise have done, and do; that is, join the *Chymick* and *Galenick* Matter of Medicin both together, in their Practice, as they see occasion require: But as for the Doctrine of *Galen*, and his Way

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Way of enquiring into the Vertues of Plants and Animals, merely by ponderation and preponderation of *First* and *Second Qualities*, 'tis vain, in comparison of the more excellent way; which is the examining of their Natures by the Principles, and Operations of the Chymists: in which number though I be the least of a thousand, yet I have a purpose to publish some *Essays* of my own, to discover what may be done by more able Men, towards an advancement of Knowledge in the Powers of Plants, in the forementiond way: for, though I have (as I said) been vilely calumniated, yet I think no Man hath at all times, made more constant use of *Animals* and *Vegetables* in his Practice than I have done, as my Bills at the Apothecaries will shew. Some years ago, there was a more ready Opportunity to scandalise me, when my Matter of Medicine being prepared in my own House, was kept private to my self, and so my Adversaries might maliciously say of it what they would: Therefore, as soon as I found the *Company of Apothecaries* had erected a *Laboratory* at their *Hall*, for supply of their Shops with Medicins of all sorts, of the Chymical Preparation: so that a Man might be sure, upon the Publick Stock and Credit of the *Company*, to be served with them faithfully prepared, my Heart rose with pleasure to congratulate them in an Undertaking so necessary for the Kingdom, it being the Main Matter wherein their Trade was deficient; because what Chymick Medicins were used before to make up the Physicians Prescript, were for the most part bought of *private Operators*; of whom we could have no Confidence for due Preparation, in comparison of what in reason we ought now to have; seeing the Security is grounded upon the Reputation of a Worthy Company of
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this Honourable City, who cannot well be supposed to prevaricate for Profit, seeing what is done this way is by *Common Consent*, which being well managed, will conduce much more to Profit, Reputation, and Interest, to each particular Man in his Shop, through the satisfaction which will arise to every Patient, by the benefit which is like to answer the expectation of each Family, from those Medicins rightly prepared. And so, from the time that I observed this, being to form divers Treatises for Publick View, I have eased my self of the Toil I had taken upon me, and wholly referred Patients with Bills, to receive Medicins dispensed by the Apothecaries Hands. And if I have any thing of worth that is my own Peculiar, or that I have learnt by rolling about to observe all sorts of Practitioners, I freely contribute it in the open way of Practice daily, to stop the mouths of lazy, proud, and malicious Men; the greatest part of which are, in plain Terms, ignorant even of Literature, or but Smatterers in it, though stiff Pretenders, till they hap to be sifted by a compleat Man of Letters. So farewell.

Octob. 13.
1674.

Marchmont Nedham.

An

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The *Author* and my *Worthy Friend* having both largely Epistoliz'd to this Work, I think it needless to add farther, save to let the *Reader* know, that where he meets with

$\left. \begin{array}{l} \text{℥.} \\ \text{ʒ.} \\ \text{ss.} \end{array} \right\} \text{it signifies } \left\{ \begin{array}{l} \text{an Ounce.} \\ \text{a Dram.} \\ \text{a Scruple.} \end{array} \right.$
 M. _____ Half.
 M. _____ an Handful, *when plac'd in a Receipt.*
 M. _____ Mix them, *when at the end of a Receipt.*
 Sp. _____ Spirit.
 Syr. _____ Syrup.

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Of Oily Volatil Salt, being so frequently commended in the most Chapters of this Book, and kept as a Secret by the *Author*, see my *Advertisement* at the end of the Book.

ERRA-



ERRATA.

PAGE 8. Sect. 4. line 8. for *there*, read *thence*.

P. 10. S. 16. l. 2. *these things which*.

P. 46. S. 10. *Vomiting, and its contracting Motion is turnd only in it self; As,*

P. 48. S. 22. *Matter, seeing it usually follows.*

P. 126. S. 39. *blot out Chap. 29, &c.*

P. 144. S. 123. *manifest them to.*

P. 154. S. 3. read *as Nitrous.*

P. 163. S. 24. *hence to the Right.*

P. 187. S. 23. *Inflamable.*

The other small ones the Reader is desired to correct.



An



A New Idea of the Practice of PHYSICK.

The Distribution of the Work.

1. **I**N our delivering a Practice of Physick for our Auditor's sake and profit compendiously, and indeed not much unlike the Platerian Method we will first propose those Diseases, which are more single, seeing the knowledge of Compound and Complicated Ones is easilier opened if the former be known.

2. And seeing Man's Health is manifested by the perfection of all his Functions, and his Sickness by the hurt and deficiency thereof; we judg it fit to treat of the Diseases in order that are obvious to Physicians in practice according to the diversity of the Functions in Man that are hurt, because they either constitute, produce or follow them.

3. All which serve either to preserve the Individual, or to propagate our Kind.

4. The Functions which are to preserve the Individual, are well-divided into the Natural Functions, serving to the various change of Food, and the Animal Functions in the knowiedg of any Things by the External and Internal Senses, and

hence consisting of the various motion of the Mind and Body.

5. So we will distribute our Practice into three Books, which shall treat of the Diseases belonging to,

I. The Natural.

II. The Animal Functions.

III. Those pertaining to Generation deprav'd.

6. For rarely is one Function only hurt in the Sick, but for the most part there are more hurt together. Which if they depend one of another, or of the same cause only, the Sick shall be said to be troubled with only one Disease, which has its denomination from the chief and most grievous, or most notable Symptom: but if they do not depend one of another, and arise from divers causes, then shall the Sick be said to be afflicted with divers Diseases, and those of a differing Name.

7. Those things which are received into Man to preserve Natural Life, are either Meat to be swallowed, or Air to be sucked in.

8. Although there be the greatest necessity for such as Breath to suck in Air, and Man cannot want Air so long as Food; yet because breathing of Air seems to be ordained to alter Food in the right Ventricle of the Heart, in some only, not in every living Creature, we will rather begin at the taking of Food being vitiated, and then handle the wayes how breathing is hurt, where Food carried out of the right Ventricle of the Heart in and by the Lungs, hath need thereof.

The



The First Book of the
Practice of **PHYSICK.**

O F

Diseases either constituting,
 or producing, or follow-
 ing the Natural Functi-
 ons hurt.

C H A P. I.

Of Thirst Deprav'd.

1. **W**E therefore assign the first place
 among Natural Functions to *Thirst*,
 because the first Natural Passion of
 Man newly born is to Thirst, and
 by sucking Milk out of the Breast allwages his
 Thirst.

B 2

This

2. This Thirst is vitiated chiefly, when it is either *augmented* or depraved; for seldom is it *lessened* or *taken away* with loss to Man; neither can we believe that Thirst, or its Cause, is truly taken away in certain raving People, with driness of Mouth, and burning heat of Body, because they are insensible and do not observ it.

3. I take *Thirst augmented* to be deduced for the most part from *too sharp Choler*, carried down into the small Gut, and there so raising an effervescency with the Juice of the *Pancreas*, (or Sweet-Breads) flowing thither, that thence are elevated Salt Vapors, but not bitter to the Ventricle (or Stomach) and Gullet, and there produce a sense of Drought.

4. This Choler being too sharp, or its Salt Vapors, if they pierce through the Lacteal Vessels to the Heart, (the like may be said of the same Choler carried thither by its passage through the Liver) and *infest the Blood too much with its saltness*, nothing hinders but that the *Spiitle* then should turn more or less *salt* or *sharp*, which will less temper Thirst, and rather augment it.

5. Another cause also of Thirst augmented, is, *a Salt Humor distilling from the Head to the Gullet*, and there producing a perceivance of Drought and Thirst; and then either falling thence also down to the Ventricle, or drawing forth Matter for Salt Vapours in the small Gut, by which in like manner a greater Thirst is stirred up.

6. Besides the now-recited Internal Causes, more External Causes of augmented Thirst may concur. And 1. indeed the *Aer* heated by the Fire or Sun. 2. *Food* salted, or aromatically sharp and dry.

7. In like manner the *Exercise of Body*, and vehement *motion* do encrease Thirst; and among the *Passions of the Mind*, *Anger* chiefly, or a *great terror*, and also *prolong'd Watches*; and the Body both too collive, and too loose; much *Sweating*; *Urine* voided plentifully; a notable evacuation of *Blood*, *Milk*, or *Seed*, &c.

8. And in like manner as the Lixivial Salt either abounding or too sharp in Cholera, augments Thirst; so the *other parts in Cholera* being vitiated, seem to *deprave it*; which seeing it may be manifold, both on the account of the manifold parts of which Cholera is composed, wherein every one may be faulty; it is difficult exactly and distinctly to prosecute, and accurately to describe every one of those Kinds, and the causes of its depravedness.

9. Add that both the *Juice of the Pancreas*, and *Phlegm of the Guts* can not a little deprave Thirst, by waxing vitiously fervent with Cholera; by a viciousness peculiar to it self.

10. The Cause of depraved Thirst can be attributed to none particularly of the *six non-natural Things*, so called, yet to a vicious effect, of more things concurring together with them, by us as yet not to be explain'd.

11. *Thirst augmented is Cured*, chiefly with *watry Liquors*, which dilute the lixivial Salt of Cholera, and deduce it to the Bladder; and with *sowr things*, which potently destroy and change its Acrimony; and with *Oily Liquors*, asswaging its sharpness, as Milk and Emulsions prepar'd of *oily Seeds*.

12. So Watry, Acid, (or Sowr) and oily Li-
B 3
quors

quors may fitly be join'd. and then they will effect more. For Example sake take this following Form;

Rx. Barley-water, ℥ xxx. Flowers of Red Roses ℥ ʒ. Spirit of Vitrol. what suffices to make a grateful sour taste; Let these stand in warm Water or and for three hours, or till the Water be reddish, called, Tincture of Roses; to which when strain'd, add Syrup of Jujubs ℥ iii. M. and let it be a most grateful Julep.

13. If any cannot take Acids, let him use this following;

Rx. Barley-water ℥ xx. Cinamon-water ℥ i. Syrup of Violets ℥ ii. ʒ. Lapis Prunellæ, or Nitre purified by Solution and Coagulation ℥ i. M.

14. The party thirsting may use either of these Juleps by spaces, taking a moderate Draught thereof, till Thirst be restrain'd.

15. If a milky Emulsion do please better, take this following Form;

Rx. Barley cleansed and boiled till it burst ℥ i. Sweet Almonds cleansed ℥ ii. with Barley-water make an Emulsion to ℥ xii. adding Julep of Roses ℥ i. M.

16. To make this Emulsion more grateful, and to strengthen the Sick and Weak, add some Cinamon-water; or to discuss Wind, a little Fennel-water, and use it by turns.

17. But where Rest cannot be obtain'd, and is desired, beat two or three drams of White-Poppy Seeds, with the other things, and make an Emulsion of these; so two things are done by one labour.

18. Some-

18. Sometimes to deceive Thirst, especially where the Sick are not pleas'd with much Water, some of the aforesaid *Lapis Prunellæ*, or *Niter purified* may be kept in the Mouth; in which case also, grateful *Pellets* of *Sugar*, and *Juice* of *Citrons* or *Barberies* are proper.

19. *Mutton* or *Veal-Broth* also assuage Thirst, being boiled with much Water and without Salt.

20. As often as a *Salt Catarrh*, or the like Spittle is the cause of Thirst augmented; so often administer such Physick for it, as will *temperate* that *saltness* by Pills of *Hounds-Tongue*, and such like; and then if *Salt serous Matter* abound in the Blood, *purge it by Stool or Urine*; of which hereafter.

21. *Depraved Thirst is cured*, by those things which correct the Constitution of Vicious Choler, the Juice of the *Pancreas*, and Phlegm in the Guts, or of other Humours; which because they are not now so manifest, all universal Things which do amend any Humors what-ever, may with profit be us'd, and chiefly *volatil oily Salts*, but *some-what moderate ones*, and indeed joyn'd to watry Liquors, and by turns given in Wine not too strong.

CHAP. II.

Of Hunger deprav'd.

1. **H**unger is call'd the Appetite of Meats, as Thirst is of Drinks.

2. The chief kinds of Hunger vitiated, are
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when

when it is *Augmented*, *Diminish'd*, *Abolish'd*, and many wayes *Deprav'd*.

3. I judg the chief *Cause* of *Natural Hunger* to be the *remainders* of *Food* fermented in the *Ventricle*, and there staying, and still *more and more fermented* by part of the *Spittle* adhering to them, being continually swallow'd down, and at length raising a *some-what sour and grateful Vapour*, which pleasingly affects the upper Orifice of the *Ventricle*, and so produces *Hunger*.

4. This *Natural Hunger*, (especially where *Food* is with-held somewhat longer than ordinary) is encreas'd even in healthy People by the *Juice* of the *Pancreas* carri'd down to the small *Gut*, and after the separation and farther descending of *Food* is finish'd, only by being oppos'd by *Choler* and *Phlegm* of the *Guts* thither flowing, there also in like manner sends unto the *Ventricle* *sour and grateful Vapours*; which seems to be manifest even by *Hunger* proceeding to fainting *Fits*, by reason of *Food* seldom taken.

5. But in the *Sick* I take the cause of *Hunger augmented*, to be fetch'd from the over-sowness of this *Juice* abounding in the *Body*, and chiefly carri'd out of the *Pancreas* to the *Gut*, and thence sending *Vapours* more *sour* than usual to the *Ventricle*, which increases the *Sense* of *Hunger*; and after the *Food* is thrust down, they presently renew the same, and urge it more potently.

6. This *Acid Juice* is encreas'd in the whole *Body*; 1. By *Acid Food*, or things season'd with *Acids*; By *too Acid Liquors*, and *Wine*, as *Rhenish* and of the *Menſe*, especially exprest out of *Grapes* unripe. 2. By *cold Air*, but clear. 3. By moderate *Sorrow*, if long continu'd, whose
strength

strength will be increas'd. 4. By a more vehement Motion of Body. 5. By too long Watches; And 6. by the Bodies being too costive.

7. The most frequent and grievous Cause of Hunger diminished, although it proceed slowly, I judg is the *Spittle too viscons and too fat*, and so unfit to promote the fermentation of Food and their Remainders; yet breeding Phlegm in the small Gut like to it, whereby the moderate acidity of the Juice of the *Pancreas* is dull'd, and at length all the acidity in the Body becomes less sharp and dull.

8. I likewise judg, the *Choler being too fat*, causes seldomer, lighter, and often suddenly the same Hunger to be diminish'd, arising from the small Gut to the Ventricle, and then corrupting both the remainders of Food and Spittle, and prostrating their grateful acidity by dulling the Appetite.

9. Of the six *Non-natural Things*, so call'd.

1. Too much Food taken, and especially fat and tough, will diminish Hunger. And, 2. hot and rainy Weather. 3. Too much Sleep. 4. Rest and slothfulness of Body. 5. Extream Cares. 6. Loosnesses.

10. The Causes of Hunger diminish'd, if they be most grievous, will quite take away and abolish Hunger.

11. Hunger deprav'd, or *Longing*, generally call'd *Pica*, in Women with Child, *Malacia*; is wont to vex Men rarely, but Women more frequently; and chiefly either before their Monthly Courses, or when they are stop'd; whence they become almost together *Cachectic*, or of ill habit of Body.

12. In *Pica*, unwonted and unfit Food is desir'd, or things that are not Food, as Chalk, Coals, Ashes, Pitch, Clay, Turfs, ragg'd Linnen, Leather, and I know not what.

13. Hither we refer Spices, which are indeed Medicins or Seasoners, but not Food it self.

14. Most commonly the Cause of Hunger deprav'd, that rages among *Women*, is to be drawn from the suppression of their *Monthly Courses*: for these standing about the Womb, and so more or less corrupted; and then after being mixt with the whole Mass of Blood, and infecting it, all the Mass thereof is vitiated and deprav'd. From which as the Cachexy is produc'd, so both Spittle, the Juice of the *Pancreas*, and the other Humors in the Body are bred vitious, and together with the most, and sometimes all the Functions Hunger is also deprav'd.

15. We altogether judg, that the like corruption and depravation of the Blood, and the rest of the Humors, let it arise whence it will, sometimes has place in Men as well as Women, as often as they are troubled with a Longing; As in like manner the same Men suffer both the Sense and Disease of Suffocation; to Women indeed more familiar, and which is thought to arise from the Womb, and therefore called an *Uterine Disease*, yea, and is cur'd with the same Medicins that Women are cured with; wherfore for Reasons following in *Chap. 22.* we judg this Suffocation is not to be call'd *Hysterical*, but *Hypochondriacal*.

16. Hunger Encreas'd is to be cur'd, by giving those which temperate, destroy and amend the Acid Juice in the Body, and do prevent its increase.

17. Lixi-

Of Hunger deprav'd.

II

17. *Lixiviat Salts both fix'd and volatil*, do destroy most powerfully this Acid Juice; as also other things abounding with either of them, Coral, Pearls, Crabs-Eyes, Chalk, Blood-Stone, Amber, the filings of Steel, and such like.

18. All fat and oily things do dull this same Acid Juice.

19. A *Volatil Spirit* also made of Wine, or other things, as well more pure, as divers wayes aromatiz'd, *temperates this Acid Juice*.

20. Lastly, Any watry things also plentifully taken, do dilute and enervate the *sour Juice*.

21. Which if more things were join'd together, as the Disease calls for, they will perform more. For Example, take these following; where first be advis'd, *That the augmentation and rising of the Acid Juice, is to be prevented chiefly by abstaining from the use of Acids*.

22. If the form of a *Powder* before others be desir'd; to please such;

R. Red Coral prepar'd, Pearl prepar'd, of each \mathfrak{z} i. white Chalk \mathfrak{z} ss. white Sugar \mathfrak{z} iii. M. to be a Powder, divided into 6 Doses, and twice a day, at least three or four hours after Meals, to be taken in a spoonful of strong Wine.

23. Where a Liquid Form is more acceptable, let a spoonful of this following mixture be taken.

R. Mint water \mathfrak{z} ii. Scurvygrass Water, Tincture of Cinamon, made with Spirit of Wine rectified by Infusion, of each \mathfrak{z} ss. Syrup of Wormwood \mathfrak{z} i. M.

24. Or, R. Distill'd Oil of Mice, and of Juniper-Berries, of each \mathfrak{z} i. M. in a Glass. Let the Sick take sometimes in a day, 2 or 3 drops of this Oil in a spoonful of Malago, or any other

other Spiritous Wine, or in the aforesaid mixture.

25. Or when Hunger encreas'd does oppress, use Broths, both fat, and also such as come near to the consistency of a Gelly, and not season'd with any sour thing.

26. I prescribe no Purgers in Hunger encreas'd, because hitherto I know none, which will kindly purge sour Humours; and furthermore I am taught by large Experience, that the sour Humors in the Body may be stirr'd up indeed, but not purg'd, unless with very great Gripes, and more hurt than good, and chiefly by the Physicians that are little solicitous of the grief or trouble of their Sick, or are blockish, or at least ignorant of this thing.

27. Hunger gradually Diminish'd or Abolish'd, will be cur'd by Medicines that correct and carry out the Viscous Phlegmatic Humor.

28. Both sour Things, and all that have a lixivial Salt, either fix'd or volatil, and all Aromatics do correct, and by cutting amend the Viscous Phlegmatic Humors.

29. Which Phlegmatic Viscous Humor also abounding, when corrected, after a manner is evacuated by Colocynthis, Turpith, Hermodyls, Mercury as well precipitated as sublim'd, both corrosive and sweet, &c.

30. Let these following Forms serve Students for an Example.

℞. Mint-water ʒ ii. Cinamon-water ʒ ss. Syrup of Fenel ʒ i. Spirit of Salt, what suffices to a grateful sourness, M.

Or, ℞. Salt of Tartar vitriolated ʒ ss. Cream of Tartar ʒ i. white Sugar-Candy ʒ ii. M.
puder

pouder it, to be divided into three Doses. Take it once or twice a day in Rhenish-Wine, or in the preceding mixture.

If any will, they may take of *Elixir Proprietatis* ʒ ʒ. instead of Spirit of Salt, and use it by spoonfuls at several times.

31. They who are offended with Acids, may use the following mixture at times, and that by spoonfuls.

Rx. Mint, Fenel-water, of each ʒ i. ʒ. Mat-thiolus his Aqua Vitæ, or any other Aromatiz'd ʒ vi. distill'd Oil of Mace iii drops, Syr. of Mint ʒ i. M.

32. They who delight in a Medicinal Wine, may use this Form following, or one like it.

Rx. Alicampane, Acorus Root, of each ʒ ii. Sage, Marjoran, Garden Rue-Leaves, of each an handful; sweet Fenel-Seeds ʒ ii. dried Orange-Peel ʒ i. Cut and beat them grossly, then sew them in a Bag; which being put into a Tankard, pour upon it 20 ounces of White-Wine.

After it has stood a night in a Cellar, it may be given to ʒ iii, iv, or v. either in the Morning fasting, or at Dinner, or Supper, as it may best please any, and is observ'd to conduce. New Wine also may be pour'd in place of the former, so long as the Aromatic strength comes out of the Bag.

33. When there is need to purge, then *Rx. Fætid Pills ʒ ʒ. Pills of Cochia ʒ i. Catholic Extract ʒ ʒ. Oil of Cloves ii drops, M. Make them into fifteen Pills to be guilded, or done over with Pouder of Licorish or Cinnamon.*

Let

14 *Of Hunger deprav'd.*

Let the Sick take five, or more of these Pills, as he is observ'd to be easie or hard to be purg'd.

34. If any would have Chymical Preparations also to be added, and in the form of Pills, then

Rx. Gum-Ammoniac, or Opoponax, &c. cleansed with Vinegar. and thickned 3 lb. Troches of Albandal, Sublim'd Mercury dulcifi'd, of each 3 i. Make them into fifteen Pills to be guilded.

Order the Sick to take five or more.

35. Which if a Decoction be more acceptable to the Sick, and he can take bitter things, this following will be convenient enough.

Rx. Liquorish slic'd 3 lb. Smallage Root 3 i. the shavings of Lignum Guaiaci 3 iii. Laurel-Berries, Anise-Seeds, of each 3 ii. the Pulp of Coloquintida 3 lb. Boil them, according to Art, in Rain-water; in 30 ounces hereof strained, dissolve the Solutive Syrup of Roses with Sena, that call'd Diacnicum, of each 3 i. lb. Salt of Tartar vitriolated 3 ii. Tincture of Cinamon 3 i. M.

Let the Sick take iii, iv, or v. ounces of this Decoction, once or twice a day, whereby the Phlegmatic and Viscous Humors may both be corrected, and also evacuated gently by degrees.

36. Mean while let the Sick abstain from the use of fat and viscous Food. Let him use clear, and also more warm Air, and drier, at least so made by Art. Let him increase wakings, if sleep were longer or sounder. Let the Mind be compos'd to cheerfulness. Let the Motion and Exercise of the Body be moderate. Let Stool and Urine, if it may conveniently be, daily answer what is eaten and drunk.

37. Hunger

37. Hunger suddenly diminish'd by Cholera verus, will be cur'd by amending that Cholera; or if it also abound in plenty by educing it either upward or downward.

38. *Elixir Proprietatis* conduces before all others to amend this Cholera, taking v or vi. drops thereof in Wine, or in a convenient mixture, and chiefly a little before Meat.

39. They who can bear Acids, may instead of it use Spirit of Salt dulcifi'd, prepar'd with several Cohobations upon Spirit of Wine rectifi'd.

40. *Wormwood* and *Wormwood-Wine*, thence call'd, amends this Cholera. Instead of which other *Aromatic Plants* may likewise be infus'd in Wine, and profitably taken at Dinner or Supper in a small quantity, such as *Mountain Calamint*, *Marjoran*, *Resemary*, *Garden-Rue*, *Hyssop*, *Time*, *Sage*, &c.

41. Cholera is evacuated by Vomitus most commodiously by several Medicines prepar'd of *Antimony*, call'd *Crocus Metalorum*, Glasse, and *Sapa Vomitoria* prepar'd of it; a Vomiting Syrup of Sugar and Vinegar, or of Honey and Vinegar, Mercury of Life, &c.

42. The same Cholera is evacuated by Stool, with *Rhubarb*, *Scammonie*, *Tamarinds*, &c.

43. *Scammonie* is suddenly and best prepar'd, if in a convenient Dose, to xii or xv Grains, according to the Age of the Sick, or to a greater or lesser fitness to continue a Purge; if, I say, *Scammony* be beaten in a Mortar, and a little of a convenient Water as of Balm, Succory, Sorrel, or such like be poured upon it, and the Liquor which is made milky by rubbing be gently pour'd out, and the rest of its strength be had also with new Water

16 *Of Hunger deprav'd.*

Water, the blackish dregs remaining in the bottoms; then to this fore-nam'd Liqueur, add ʒ ii. of Cinamon or Fenel-Water, or any other Aromatic, and also ʒ ii or iii of the solutive Syrup of Roses, or such like, and so it will be a most grateful Draught for the Sick. Which that it may work the better, it will be convenient that half an hour after the Draught is taken, the Sick should drink in Broth ʒ i. or ʒ ss of Cream of Tartar.

44. Also these most grateful *Tablets* of *Scammony* may be prepar'd and kept against need, which,

Rx. *Crytals of Tartar* ʒ i. ss. *Diagridium* ʒ iii. *Oil of Cinamon* vi drops, *white Sugar dissolved in Rose-Water* ʒ viii. Make them into *Tablets* according to Art.

These *Tablets* may be given most conveniently to Infants, Children, and to such as are delicate; seeing their highest Dose is from ʒ iii. to ʒ ss. to Infants ʒ ss, or ʒ i. and to Youths ʒ ii. may be given with careful governing.

45. They who being smitten with a vain and preposterous terror, do abhor from the use of Scammony and Scammoniats most gentle and safest, though potent, or fear their Patients herein, let them use *Rhubarb* in this following manner.

Rx. *Select'd Rhubarb* ʒ ii. *Crude and the best Tartar* ʒ ss. *Succory-water* what suffices; Infuse them all night in a warm Bath of Ashes, or Fresh-water; to what is gently strain'd, add the solutive Syrup of Roses or of Succory with *Rhubarb* ʒ ss. *Cinamon water* ʒ ii. or *Oil of Anise* ii or iii drops; which does most powerfully and happily correct and take away the squeamish

squeamish smell of Rhubarb, and discomb Wind. M. for a Draught.

46. They who had rather use an Electuary to purge Choler abounding, to them we commend our Cholagogue or Diaprunum, prescribed for the use of the Academic Hospital by us some years ago, and commonly used to the profit of the Sick, both there and else-where, by other Physicians as well as by us; which even therefore is the more commendable, because though it be used in a small quantity, it works powerfully and gently enough. The Form whereof we here communicate to all.

The Cholagogue Electuary, or Diaprunum
of Sylvius.

Rc. The Pulp of Prunes sowrish-sweet \bar{z} x. Cream of Tartar, best Scammony, of each \bar{z} ii. Select Rhubarb \bar{z} x. sharp Cinamon \bar{z} lb. Yellow Sanders \bar{z} ii. Resin'd Sugar \bar{z} xvi. Make it an Electuary according to Art. The Dose is from \bar{z} iii. to \bar{z} lb.

It may be dissolved in a sufficient quantity of convenient Water, and so be given.

47. Seeing that Depraved Hunger is most various according to the diversity of the thing desired; Its Cure will only be proposed here by us generally, which consists in the purifying and amending of the Blood, and other Humours; which being done, Longing will of its own accord vanish away.

48. And in this Disease, I have found hitherto that Volatil Salts do avail before all other Medicines; which seeing there are many, they are to be selected; which by accurate Observation, we shall note do most profit the Sick. Wherefore Medicines are to be

chang'd often-times, and chiefly where we see they profit little by them.

49. And so much the more are Volatil Salts profitable, because they gently and kindly move the Monthly Courses, the suppression whereof is known most frequently to produce the Longing.

50. The best way of using Volatil Salts, is, if more or fewer Drops of them be taken twice, thrice, or oftner a day in Wine, or another convenient Liquor, and chiefly at Dinner and Supper-time, whereby being joyned to the Victuals they hinder their corruption that might be expected from the vicious Spittle, and by degrees amend the Spittle, and so by little and little restore the Fermentation of Food also deprav'd.

51. In this Disease also it is good sometimes to move Sweats gently; and beware lest the Sick be stifled with Cloths; for it is safer that no Sweat should breath out, rather than one forc't; seeing that Sudorifics do amend and correct the vicious Humors, though they do not expel them. And I always prefer those that are liquid and spiritous, before them that are thicker, although Antimonial, though never so dry, are here the best, as Diaphoretic Antimony, and Mineral Bezoard, &c.

52. And according to the diversity of the vicious Humors sometimes abounding together, you may profitably institute a Vomit or a Purge, which we have in part handled, and intend more hereafter.

CHAP. III.

Of Loathing of Victuals.

1. **T**HE Sick do not only desire little or nothing, or too much, or what is strange and absurd; but sometimes *loath* and are averse to the *most*, or *some* at least, and *certain kinds of Food*.

2. This *Loathing* both of some *Meat* and *Drink*, does not only overtake the *Sick*, but sometimes those that are otherwise *Well*.

3. Where this is to be noted, that almost *All do more loath* what is *actually hot or warm*, and which do more powerfully affect also the *Smell* than cold things, and therefore less moving the *Smell*.

4. All *Loathing* is either *natural* or *adventitious*.

5. The *Natural* for the most part, if not always, follows *as the Mind of the Mother carrying in her Womb the young one is affected*; and such-like either present, and incurring upon the outward *Senses*, or absent, and often call'd to mind, and sometimes by the vicious *Humors* in the *Body*; other-times by prejudices whencesoever taken, loathing and being averse from things judg'd ungrateful.

6. The *Adventitious Loathing* is stirr'd up after Birth in *healthy People*, either by *Prejudice*, esteeming Food unclean, ungrateful, or hurtful; or by the same *Food*, or such-like us'd *over-plentifully*, especially to *nauseousness* or *vomiting*, or by the same *not cleanly enough prepar'd*, or *presented*: which if they were taken in *Hunger*, or any other necessity compelling, they breed a loathing of them, and leav

a great prejudice against such-like ; which sometimes indeed is again at length taken away, sometimes continues to the end of Life.

7. In like manner and more frequently is stir'd up in the Sick, a Loathing of certain or the most Food, and chiefly as often as they are given *hot* or *warm* ; for by their smell, easily ungrateful to the Sick, a queasiness almost together rais'd, promotes and encreases their loathing.

8. Neither are many Sick wont to loath Food of one kind, but sometimes of every kind and tast, and those accustom'd and otherwise desir'd ; but not Meat only, but also often all Drinks, Wine, Beer, and often Water.

9. This Loathing of Food is so frequent a Symptom to the Sick, that sometimes it is a manifest sign of unhealthiness, and especially in Boy's, testifying a Sickness beginning or begun by that loathing.

10. It is worthy consideration, that not only Flesh, and Broths, especially Fat, do loath the Sick, but so frequently all things, both *sweet*, and *sourish-sweet* ; and very seldom those things that are more Acid.

11. And sometimes Loathing of certain Meats and Drinks, rises to that height, and takes away the strength of the Sick, that though the Disease be taken away for a while, and sometimes long, yea, sometimes wholly, yet it continues ; whilst in others quickly, at least in a short while it is taken away or vanishes.

12. But for the most part, the Loathing of the Sick depends, 1. of the *vitious Vapors* produc't in the small Gut by a vitious Effervency by *Choler*, *Phlegm*, and the *Juice of the Pancreas* vitiated together or apart, and rising up to the Ventricle and the Mouth, notably

notably diminishing Hunger, but more or less depraving Thirst, and moving chiefly the Smell, or Taste, commonly also Loathing, when mention is made, or at sight of Victuals.

13. The same also do depend, 2. of the trouble that follows the taking of such-like Food, once or often, and hence of the wilful prejudice bent of the same trouble returning, if they be again taken; whence a Loathing; and hence a Vomiting is wont to be stirr'd up in some by the memory only of unpleasant or hurtful Victuals.

14. This Loathing of the Sick is deservedly ascrib'd to Choler, the Juice of the *Pancreas*, and Phlegm flowing together in the small Gut, and vitiated, and therefore vitiously raising an effervescency; seeing when they are amended and evacuated, it is taken away and cured forth-with in the most.

15. And as sometimes this, sometimes that Humor is peccant, so also the Sick do loath Food of this or that Taste before others: which when more are notably peccant together, they are avers to Food of every kind.

16. And what Humor, and how it is peccant, the conjoin'd Symptoms to be fetch't from the following Treatise of other Diseases will shew.

17. The Loathing of Healthy People will be Cur'd, by freeing the Mind from every prejudice, or by degrees accustoming to the use of Food loath'd: which is tri'd sometimes in vain, other times with success.

18. After the same manner is the Loathing of the Sick to be Cur'd, which arises from a Prejudice.

19. But where the Prejudice has its rise from the present *visionsness* of the *Humors*, the Cure will follow, if the peccant humors be corrected or purged out.

22 *Of the Taking in of Food hindred.*

20. The Humours Peccant are to be corrected by Medicins, partly now propos'd before, and partly to be propos'd yet in what follows.

21. The Humors whether fluid, or of their own accord, inclining upward, may be carried out by a *Vomit*, and indeed with Vomits already mention'd, or to be here and there mention'd.

22. The same Humors, seeking no way upward, and very viscous, may be carri'd out by *Stool*, both by Medicins already prescrib'd, and to be prescrib'd hereafter.

CHAP. IV.

Of the Taking in of Food hindred.

1. IT suffices not Man to desire Meat and Drink, unless he take the same in at his Mouth, and lessen the more solid parts by chewing, and thence swallow it through the Gullet into the Stomach.

2. These Functions are hindred many ways; and 1. when the taking of *Liquid Things* usually perform'd by *Sucking*, is deficient more or less.

3. It happens, when the Sick cannot either open or shut the Mouth; at least conveniently either conjoin or disjoin the Lips; or put enough out, or wry about the Tongue.

4. The Sick cannot open the Mouth, when it remains shut in the Convulsion of the Muscles of the Temples.

5. The same cannot shut the Mouth, when it perpetually gapes when the lower Jaw is out of joint, or in the Palse of the Muscles of the Temples, or a cross Wound.

6. The

6. The Sick cannot conveniently and sufficiently join together *their Lips*, when they are *wanting*, or have the *Palsie*, or gape with a *great Wound*.

7. The same cannot *decently open their Lips*, when they in like manner are *wanting*, or are kept in *Convulsion* by the *wriness of the Mouth*; called *Cynicus Spasmus*.

8. Both happens *imperfectly*, when the *Palsie* or *Convulsion* is in *either side*; whence in the side affected there is no contraction, or too much of, both *vitious and hurtful*, in the *wrying of the Mouth*.

9. The same Sucking is hurt in the closing of the Lips, stopping the way of the Food.

10. The *chewing* of solid Victuals is Hurt, when the *under-Jaw* cannot be drawn from the *upper*, or drawn to the same.

11. The first happens by the *Convulsion* of the Muscle of the Temples, in the *Spasmus Trismus* call'd; the latter by the *Palsie* of the same, or the Continuation loosned cross-ways; both in the dis-joining of the Jaw.

12. The same *Chewing* is Hurt by the fault of the Teeth *deficient* up and down, or otherwise *not enough fitted to themselves* above and beneath, or troubled with *Unsensibleness*, *Pain*, *Rottenness*, or any other *Corruption*.

13. The Tongue cannot conveniently be *put forth* or *wried about*, as often as it is troubled with the *Palsie*, or *Convulsion*, or a *Wound*, or a shorter string of the Tongue.

14. In the *Second Book* we intend to Treat of the *Palsie*, *Convulsion*, *Pain*, and such-like; whence may be requir'd, those things which are necessary to clear up more, and Cure the present Diseases.

CHAP. V.

Of Swallowing Food hindred.

1. **T**HE Sick *cannot* sometimes at all, other times not, unless with difficulty swallow Meat, or Drink, or both.

2. Both the *Tongue* serves naturally to Swallow, especially by thrusting Meat to the Jaws, and the *Gullet* by thrusting down the same, and Drink receiv'd.

3. To this end is required both a *movable Tongue*, and the *Gullet* able to be displai'd and folded up, as also its *Chanel*, as well as the upper *Orifice* of the *Ventricle* open, and not hindred.

4. The thrusting of Food forward to the Jaws, is hindred, as often as the *Tongue* is troubled with the *Palsie*, or *Convulsion*, or *Wound*, or *Ulcer*, or *Pain*, concerning all which we intend to Treat elsewhere.

5. The thrusting down of Food through the *Gullet*, or *swallowing* is hindred and abolish'd; when either 1. the *Throat* is obstructed by a solid thing filling its *Chanel*, to wit, sometimes *Flesh* growing out in that part affected; other times by *gluttony*, or by some *Gristle*, *Bone*, or *Kernel*, hastily swallow'd, and firmly sticking in it. Or, 2. it is prest by a *Tumor* near it, as is wont to be in the *Quincie*. Or, 3. it is grown together, after its *excoriation*.

6. The Sick Swallow with difficulty; 1. When the newly mention'd hindrances are only *Light*, and not great, and do only in part shut the *Chanel* of the *Throat*. 2. When the *Throat* is troubled with
the

the *Palsie*, an *Excoriation* or *Exulceration*. 3. When *Vapors*, or bitter, and tart, or many Belches rising up out of the Stomach, do stop and sometimes repel Food that is to be swallow'd.

7. Sometimes the *Swallowing down* of Food is hindered, and not performed without difficulty and pain, when the upper Orifice of the Stomach is either *Inflam'd*, or *Excoriated*, or *Ulcerated*, or is more or less beset with a *fleshy Excreescency*.

8. Of the most Diseases before mention'd, and those that hinder Swallowing down, we intend to speak anon, whence they may be requir'd, which are here desir'd both to a farther Knowledge and Cure of them.

CHAP. VI.

Of the Retention of Food hindred in the Stomach.

1. IT suffices not that Food is taken into the Mouth, and swallowed down through the Throat, unless the same stay and be retain'd in the Stomach a convenient space, and so long, till it be sufficiently fermented there.

2. This required Stay and Retention of Food in the Stomach is hindered, when it is expell'd, either suddenly after it is taken, or at least sooner than ought to be, and that either upward by the Mouth when Vomited, or downward through the Guts by Stool, in the Disease call'd *Lienteria*.

3. Either of these disturbances of Food made down or up, happens usually by the faultiness of the Stomach, or its Food, or a vitious Humor provoking the Stomach

Stomach continually, or at least after Victuals.

4. By fault of the *Stomach* this evil happens, as often as it being inflam'd, or *exulcerated*, or excoriated, can receiv nothing into it, but presently after is stirr'd up to contract it self violently, and unload it self of what is in it.

5. The same falls out by fault of the *Food*, or other things Taken together with it, if they be sharp and provoke the *Stomach* by biting to unload it self.

6. The same happens by fault of other *Humors* that were before in the *Body*, if they incite the *Stomach* by their *Acrimony* to a perpetual Loathing, and Vomiting, or to a Contraction tending downward, and therefore a driving down of all things receiv'd in.

7. Such *Humors* are often *Choleric Salt*, and sometimes *Pancreatical over-Acid*, which being endu'd with a *Volatil Acrimony*, and rising one against another, do come up to the *Stomach*, at least send thither sharp Vapors, fretting and gnawing it.

8. Sometimes *Humors* sourish salt and sharp, slide down from the *Head* to the *Jaws*, and hence to the *Stomach*, and compel it to contract it self, and expel what was taken in.

9. Of an *Inflammation*, and any *Exulceration*, we intend to speak in their proper place.

10. If this evil happen by sharp *Food*, more gentle and also asswaging things ought to be us'd; or at least *Acrimony* is first to be temper'd and corrected.

11. To this end many oily things conduce, Oil it self; any *Milk*, *Cows*, *Sheeps*, *Goats*, &c. *Flesh-Broths*, especially *Fat*; Emulsions prepar'd of several *Seeds*, especially *Sweet-Almonds*.

12. A sour sharpness may be temper'd, besides with sweet things, *Sugar*, *Hony*, *Raisins of the Sun*; and som-

sometimes with *spiritous Things*, or others, which *concentrate sourness*, and yet hurt not food; such as are *Coral, Pearl, &c.* And also by much the longer concoction, do by little and little wax sweet, and more or less lose its acidity.

13. *A Lixivial and Aromatic Acrimony*, such as is in *Peper, Cloves, Rocket, and such-like*, is temper'd by the *aforsaid oily and sweet things*; and then it's safer to abstain from them things wholly, or for the most part.

14. The *salt sharpness*, such as is in *Sea and digg'd Salt*, and most salted things, is wonderfully corrected with *unslak't-Lime* made of burnt *Flints or Shells*, not to be fear'd any more by any prudent *Physician*, and to be most happily us'd in most *Diseases* in the form of a *Lie*.

15. As *Meat and Sauces*, so the *vicious and sharp Humors* may be corrected with *oily and spiritous things*, and that with their *Contraries*, but first temper'd, already mention'd, and hereafter still to be mention'd.

16. The same *Humors too sharp*, but first more or less corrected and temper'd, as often as they also abound, or are more *slow or difficult to be corrected and restor'd*, are to be empti'd by *Medicins* prescrib'd before, and hereafter to be prescrib'd.

17. Chiefly then to temper the *argent Acrimony* of *Humors*, and to dull the *sense of the Stomach*, and to settle its troublefom contraction; *Opium* avails, and any *Medicin* nam'd of *Opium, Treacle, Mithridate, Disoordium, Roman Philonium, Laudanum, &c.* if us'd often in a small quantity, other *Medicins* being added which kindly temper the most peccant *Humors*, whose *Forms* are extant in several places of this *Treatise*.

18. We

18. We intend to Treat distinctly of *Vomiting*, and the *Liemery*, in which the Excretion or Expulsion of the Stomach, and sometimes and perhaps always of the Guts is withal hurt.

CHAP. VII.

Of the Fermentation of Food in the Ventricle hindred.

1. **T**Hat change which happens according to nature to Food taken into the Stomach, commonly call'd, turning of Food into Chyle, we incline to call *Fermentation*.

2. The chief kinds of this Fermentation of Food hindred, are, 1. when it is *abolish't* or diminish't; 2. when *Increas'd*; 3. *Deprav'd*: which being known, both that which is too slowly, and that which is too speedily perform'd, may easily be deduc't.

3. Fermentation of Food is thought to be *Abolish't*, when, though it be retain'd a sufficient time in the Stomach, yet is cast out again *raw* and *unaltered*, either upward or downward, as it is *Diminish't*, when it comes forth a *little*, or *less chang'd than should be*: Whence the Sick get none, or little nourishment and strength from what they eat.

4. The Fermentation of Food is said to be *Increas't*, when it's done *quicker* than ought, whence if Food stay longer than its natural and wonted time, it is too much chang'd; that neither so can it afford convenient matter to nourish the Body; as dough when too much, or too long fermented makes the Bread

Bread too sower, and therefore less laudable. For all good consists in a Mediocrity, evil in extreams.

5. Where it is to be noted, that the Fermentation of Food Encreast is not very hurtful to Man, unless it persist too long, because most commonly Food sufficiently Fermented, makes no long stay in the Stomach, but is forthwith driven forward to the Guts, and there is sever'd into profitable Chyle and Excrements, &c.

6. But where Fermentation encreast persists for a space, there is too much Food delir'd, and when all succeeds well, gradually there follows a *Plethoric*, and hence an *Athletic Habit*, which, except it be loos'd in time, it's known out of *Hippocrates*, to whom Experience subscribes, into how great danger it casts Men.

7. The Fermentation of Food is *Deprav'd*, when it is so chang'd in the Stomach, that it affords not a convenient, but hurtful nourishment for the Body as well containing as contain'd; whence arise infinite evils; seeing that the Faults of the first Concoction are not corrected easily in the second; which is always true of a *Deprav'd Concoction*.

8. Among the divers kinds of *Deprav'd Fermentation* of Food, two are commonly reckoned the chief, known by the name of *Loathsome* and *Sower Crudity*.

9. The Fermentation of Food is *Abolish't* or *Diminish't*, sometimes by the fault of Food, othertimes of that which Ferments, or because of the *vitious Humors* brought to the Stomach.

10. It happens by fault of Food, when it is taken in either in *too great a quantity*, or does more or less hinder or stay the Fermentation by *its own vitious quality*.

11. The

11. The vitious quality of Food consists frequently in its *Fatness* abounding; sometimes in a *Volatil Spirit* preposterously, and too much taken, sometimes in a *lixiviat Salt*, either *fixt*, or *volatil* too plentifully also us'd; in one word in those things, which presently break the *Acid Spirit*, and its Operation: whence the thicker parts of Food cannot be sufficiently cut and separated from one another; so much can a certain proportion and harmony of many things every-where requisite concurring, do to produce the same effect. Any *Beer* also, especially *watry*, does this if swill'd too plentifully, and then it dilutes and washes away the Ferment, and overwhelms the Meat, hindring it in its Fermentation.

12. The Fermentation of Food is *Diminish't* or *Abolish't* by fault of the Ferment, both because of its *Defect*, and also *Slowness*.

13. The Ferment of the Stomach is *Deficient*, when there is not enough of it in the defect of *Spittle*, or in a continual spitting; or it's carri'd another way, by a continual drinking, whereby it is driven forward to the Guts.

14. This Ferment is *sluggish*, because it is produc't *Fatter*, more viscous, or more watry than it ought, because of *such-like Spittle*, arising from *such-like Food* too long us'd; and sometimes to be produc't from the heat of external Air, or from a vehement exercise of Body or Mind spending the Animal Spirits; and chiefly where the Animal Spirits are not refresh't with Food abounding with volatil Spirit, or repair'd being consum'd and deficient in the Body, seeing they are very useful to promote the Fermentation of Food.

15. Where more Causes do concur, the aforesaid Fermentation of Food is hindred, and on the contrary.

16. Some

16. Some things may *Diminish*, and sometimes *Abolish* the same *Fermentation* when they are us'd ill, either for Food or Medicins, and because they *weaken the Ferment*, or render the Food unfit for *Fermentation*, are to be esteem'd *Poison*; such as are all, which are endued with an excellling power of *fixing*.

17. The *Fermentation* of Food may be *Diminish't*, and after that *Abolish't*, by the *vitious* and especially *Choleric Humors over-oily*, rising up to the Ventricle, and either *corrupting* or *weakening* the *Ferment*, or mixing themselves *with the Food*, do trouble, binder, or stop their *Fermentation*.

18. On the contrary, the *Fermentation* of Food is *Encreas't*; either, 1. by the fault of *Ferment* being more *acid* and *volatil* than it wont. Or, 2. by the fault of *Food* long continu'd, which according to the natural Constitution of the Eater, is easily *fermented*. Or, 3. because of the *Humors* having a *volatil acidity*, and *sliding down* from the Head, or *rising up* from the *Pancreas* to the *Stomach*.

19. The *Ferment* and *Spittle*, as also the *Juice* of the *Pancreas*, and *Humors* falling down from the Head, owe their encreas'd *volatil Acidity* chiefly to *Food* that have in them a *volatil acidity*, over-plenteously & long taken, and such-like *Sauces*, and *Wine*, or other delicate and *spiritous Drink*, but somewhat *acid*, as is *Mense* and *Rhenish-Wine*, us'd for some space, though not in too much plenty.

20. A *careful sorrow* may in part promote the same, but not too grievous; as also *clear* and *subtil Air*, but not very hot or cold, but a little inclining to the nature of the Northern.

21. The *Fermentation* of Food is *Deprav'd* into a *unifom Crudity* by *Choler* over-fat and too *volatil* rising

to the Stomach, and not only hindring Fermentation, but moreover altering and corrupting it. Whence are *Belches* rais'd and lifted up, which distend the Stomach, or gnaw it, sometimes smelling of fri'd Eggs, other-times stinking Fish, or other things.

22. But as often as the *Distension of the Stomach* concurs, or those *Belches* come up with difficulty, so often it is certain that *viscous Pblegm* is also peccant.

23. *Sowr Humors* produce the *Acid Crudity*, and chiefly the *Juice of the Pancreas* peccant in abounding, or height of acidity, and carried to the Stomach; whence the Solution and Fermentation of Food is not only too much hastned, but moreover vitiated and corrupted, *Acid Vapors* sometimes very troublesome, being elevated by the same Work.

24. Neither is it a wonder or new thing, that the same Cause, according as it is more or less in quantity, or more intense or remiss in quality, doth more or less alter and change, yea, hurt some Function, sometimes according to quantity, other-times according to quality.

25. *The Fermentation of Food* Abolish't or Diminish't, because of *too much* of it taken in, may be Cur'd often with *Hunger* only, or Food sparingly taken for a space.

26. The same may be sooner obtain'd by using Medicins that promote Fermentation, such chiefly are *Sowr and lixiviat Salt things* alter'd, and more or less volatil'd by a volatil Spirit. Hereto belongs Spirit of Salt dulcifi'd by iterated cohobation with Spirit of Wine; also Salt of Tartar made volatil with Spirit of Wine; Salt of Amber, of Urine, Harts-Horn; and Salt Armoniac, its Spirit, or volatil Salt, &c.

27. For

27. For all these things do cut *Meat*, as well as *thick and viscus Humors* found in the Body, and carry down those that are Crude to the Fermentation, and so make them useful for the Body.

28. All these things are most commodiously us'd, if taken in a convenient quantity, for the Constitution and Age of the Party, in Wine, or any other convenient Liquor, at Dinner and Supper. They may also be us'd not incommodiously at another time, and chiefly when the Body abounds with *viscus Phlegm*.

29. *Fat things* may be corrected by an *acid dulcifi'd Spirit* powerfully, but more weakly and slowly by a volatil Salt.

30. Where the Appetite is prostrated, not only by the over-use, and so the abuse of Spirit of Wine, but moreover is Diminish'd, and sometimes Abolish'd, the dulcifi'd acid Spirit doth much conduce, being taken in a small quantity, and often; as also *Elixir Proprietatis* rightly prepar'd.

31. This Medicin will do the same, where any has us'd long, Food too much abounding with volatil or fixt Salt; whence the Acid Spirit that is in many Humors, and altogether necessary, is too much broken and made sluggish.

32. Fermentation of Food Abolish'd or Diminish'd, by devouring much Drink, and chiefly watry, to wit, small Beer, or such like, may be Cur'd, by daily diminishing the quantity of such Beer, and instead thereof using a little Wine strong enough, or any other Drink potent enough, and abounding with a volatil Spirit.

33. Where the said Fermentation is Diminish'd or Abolish'd for want of Ferment, the same is to be increased together with Spittle wanting, by preparing,

and then using a mixture of *a little volatil Salt, and more of an acid dulcifi'd Spirit* join'd together.

34. *So continual Spitting is to be disaccustom'd by degrees.* For this commonly follows the ill manner and custom. And it is good to contain *the Tongue quiet in the Mouth*, seeing by its often moving the effusion of too plentiful Spittle is promoted.

35. And moreover *a perpetual and unseasonable Drinking* is to be abtain'd from; for it cannot be, that a Physician should make Men healthy that continually err in Diet.

36. *The Ferment sluggish, and too fat, and viscous, and watry, because of such-like Spittle*, may be renew'd by the newly mention'd mixture, seeing it is sufficient for all these Indications. Which may sooner be obtain'd, if the Sick abstain from such-like Food, and use in their stead, those things which are of good and plenteous nourishment, and of easie Fermentation; if he shun the cloudy or hot Air; if he be moderate in the Exercise of *Body and Mind*, and get moderate Sleep.

37. Where Fermentation is Diminish't or Abolish't, by things *that fix the Ferment, and concenter its Acidity*, or make Food taken in unfit for Fermentation, as *Chalk, Ashes, Lime, Coral, &c.* ill us'd, in *Loosning, Acids* ought to be us'd, and such as are *more kindly and temperate*, and to persist for a space in the use of them, and especially a little before Victuals; and often *volatil Salts* may conduce, if taken at Dinner and Supper, in a moderat quantity, in Wine not very spirituous, seeing they do not only promote the Fermentation of Food, but by degrees do change and amend the nature of fixing and fixed things. Mean while beware of any further abuse of *harsh things*.

38. I said that *kindly and temper'd Acids* ought to be us'd; which Rule ought always and every-where to be observ'd in rightly exercising Physick; and because all the Humors in our Body are by nature temperat, and also because when they are less temper'd, they continually raise up an effervescency too vehement, and so too hot in us; for it can scarce be, but that then both sharp and gnawing Vapors are rais'd, from which no good, but much harm may be expected. Therefore it's better to proceed more slowly and safely, than to cast the Sick into the danger of any harm by hastening too much.

39. As often as the *Fermentation of Food is Diminish'd or Abolish'd* by over-fat Cholera rising to the Stomach, so often it is to be corrected by Spirit of Salt dulcifi'd; or, if it be judg'd to be peccant also in quantity, it is to be evacuated by gentle Cholagogues, or light Vomits, especially such as are prepar'd of *Antimony*, such as we have toucht above.

40. *Fermentation of Food Encreas'd*, because the Ferment is over-acid and volatil, may be Cur'd by exhibiting those things, which break and kindly fix that Acidity, Coral, Pearl, Crabs Eyes, Filings of Steel, Chalk, and such-like.

41. Where it is to be noted, that the fam'd and wonderfully prais'd *Magisteries of Coral, Pearl, and such-like*, especially prepar'd by the Oil of Tartar, answers not the Promises of their Authors, because that by such Preparation, their power of tempering, fixing and concentrating sowness is broken, if not wholly abolish'd: It is better therefore only to reduce them into fine Pouder, than to use them corrupted rather than prepar'd.

42. Their *Fermentation Encreas'd*, by reason of Food over-easie to be fermented, may be Cur'd, by exhibiting

36 . Of the Fermentation of Food

hibiting Food thicker, more viscous, and of a more difficult fermentation, as Bread made of Meal and Bran, and not leaven'd; Beef salted or hardned with smoak, &c.

43. A *Plethora*, that is, an abundance of good Blood, and an *Athletick habit of Body* following it, which arises after Fermentation of Food *Encreast* persists for a space, is *Cur'd* soon and safely by letting Blood, once, or oftner, as the matter requires: which if it be neglected, or deferr'd too long, the Sick are often cast into present danger of Suffocation; from which they are not sooner freed, till by Blood let out of a Vein cut, this breathing is made freer, and so Death otherwise at hand is turn'd away.

44. Fermentation of Food *Encreast*, by the fault of *Humors fower*, and endu'd with a volatil Acrimony, either descending from the Head gradually through the Gullet, or rising up from the *Guts* to the Stomach, is to be *Cur'd*, by exhibiting at times, as is already said, Medicins that do *temper*, *break*, and kindly fix all *acidity* in the Body by degrees; by abstaining from Drink and Meat, that is over-sharp, or sauc'd with sower things; by inclining to *cheerfulness*, by shunning the very clear and over-sharp Air.

45. A *wisom Crudity* is to be *Cur'd*, by amending *Choler* by the often commended *Spirit of Salt dulcifi'd*, or any other so prepar'd; or, if it be peccant also in *encreast plenty*, by *educing* it either by the Mouth with a *Vomit*, or by *Stool*, with *purging Choleriques* above-mention'd.

46. Where observe that those *Evacuations* are to be us'd in the beginning in a *small Dose*, lest *Choler* being of it self very fluxil, or after a certain manner turgent become furious, and cause the *Disease* call'd *Cholera*, or at least a sore *Diarrhea*, and therefore dangerous.

47. For

47. For except it appear that Phlegmatic and Viscous Humors do also abound in the Body, *it is always safer when you purge Choler, to use Cholagogues in a lesser Dose,* for fear of over-purging.

48. Add that, although perhaps Purgers evacuate nothing when given in a small Dose, they may be repeated, and the Operation of what preceded, will be promoted by others taken some hours after in a small quantity also; which, where there is no need, may be done only on the next day, because *Purging Medicins have power, not only to evacuate the vitious Humors, but also to alter and amend the same, and to prepare them to be commodiously educ't.*

49. And this Precept we willingly commend to younger Physicians and Students, because by so doing they will not only do their Patients no harm, but by such prudence they will become more commendable to every one; which is only to be done by any that seeks honest profit by doing well.

50. But where *viscous Phlegm* is join'd to Choler, begetting the Loathing Crudity, *Purging Phlegmagogues* are to adjoin'd, beside *Spirit of Salt* dulcifi'd, which conduces to its alteration and incision, and then both of them in a somewhat greater Dose; because *the Operation of any Purgers is retarded, and bindred by too viscous Phlegm,* which therefore ought to be promoted by encreasing their quantity.

51. To this end Purgers may be prescrib'd most conveniently in form of a Pill, because the Gums are most apt above all other Medicins to loosen and cut viscous Phlegm, neither can they be easily dissolv'd in any Liquor, and with one and the same labour both empty, and carry out the Humors peccant.

52. To this purpose may the following, or such a like Form of Pills serve, which

R. Gum Ammoniac, or Galbanum, &c. prepar'd with Vinegar \mathfrak{z} ss. Select Mastich \mathfrak{z} i. Troches of Albandal, Rosin of Scammony, of each 25 Grains, M. Make it into 25 Pills and guild them.

Let the Sick take 5 or 7 in the morning fasting, and an hour after drink Broth.

53. The Acid Crudity is to be Cur'd by exhibiting Medicins often above-cited, which temper or concentrate the Acid Spirit; diligently shunning Purgers before the Acid Humors are temper'd and brought to a serous Nature, which if they then abound, nothing hinders but that they may be carried out by Hydragogues.

54. The Serous and Acid Humors being both temper'd, are carri'd out by Mechoacan, and Jalapp Root, the most parts of Elder, and Dwarf-Elder, Gum-Gotte, Elaterium, &c.

55. Among the Compounds, I dare commend an Electuarie some years since invented by Me for the use of the Academic Hospital, and often us'd to the profit of the Sick; the Description whereof I here set for young Physicians-sake.

The Hydragogue Electuarie of Sylvius.

R. Juniper-Berries boil'd in Water, express'd and reduced to the consistencie of a Pulp, the Pulp of Tamarinds, of each \mathfrak{z} iv. Jalapp-Root \mathfrak{z} i. ss. Select Scammonie \mathfrak{z} i. Sharp Cinamon, Sweet Fennel-Seeds, of each \mathfrak{z} ii. Clarif'd Sugar \mathfrak{z} x. Make it an Electuarie according to Art.

The

The Dose also of this is from \S iii. to \S li. to People of Age. It is a gentle, effectual, and no ungrateful Medicin. It may be dissolv'd in a convenient Water, as of Parsley, Fenel, or any other, and exhibited in form of a Potion, or taken by it self and swallow'd down.

56. To correct a slow Ferment, and also to amend Pblegmatic viscus Humors, a Medicinal Wine may be prepar'd in this following Form.

℞. *Elecampne*, *Galingal-Root*, of each \S ii. The *Leaves of Water-Mints*, *Mountain-Calamin*, of each M. li. *Anise-Seeds*, sharp *Cinamon*, of each \S ii. *Nutmegs* \S i. Cut and Beat them grossly, and put them into a Bag, which being put in a Glass or Stone, or any other Vessel, pour upon them *White-French*, or *Rhenish Wine*, (as the Sick likes this or that better) as much as you please, or for Example, three pints.

Let it stand twelve hours or more in a cold place, that the Aromatical strength of the Plants may get into the Wine: Whereof let the Sick drink a Draught as well at Dinner as Supper, adding in every draught, either *Spirit of Salt dulcis'd*, 10 drops, or *Elixir Proprietatis* 5 drops.

When the Wine is almost consum'd, more may be poured on, till it cease to be Aromatical.

If *Wormwood-Wine* please any, half an handful of the tops of *Wormwood* may be added, and us'd, as is directed.

CHAP. VIII.

Of the Expulsion of Food to the
Guts deprav'd.

1. **T**He Food that is taken in at the Mouth, and kept a sufficient time in the Stomach, and Fermented, is usually thrust forward to the Guts by degrees through the Pylorus; that is, the lower Orifice of the Stomach.

2. To this end the Stomach is wont to press its Cavity, by contracting it self by its circular Fibres, and expel downwards what is in it.

3. This Expulsion of Food is either *Abolish't*, at least *Diminish't* and is *over-slow & dull* beyond Nature; or is *hastied* and performs a *jooner* than ought to be; or is finish't a *preposterous* and inconvenient way.

4. That expulsion is only thought to be *Abolish't*, or rather *Diminish't*, when it is too slow and imperfect, whence a good part of Food stays too long in the Stomach, and presses it with heaviness.

5. For I think not that this Expulsion can be *Abolish't*, but shortly after the Sick dies; seeing that these *Motions of Contraction*, call'd by me *Natural*, of the Parts forming a Cavity, and carrying certain things contain'd, have been observ'd by Me, and other accurate Searchers of the Works of Nature, to be notable, and so remaining several hours to Extern I sense, though all the *Motion* of the Muscles, call'd *Animal* and *Voluntarie*, were *Abolish't* and wholly cessant, yea, even after the Man or Beast was already dead.

6. The

6. The *Expulsion* of Food out of the Stomach is perfected, and hastned sooner than ought, if the *Expulsion* begin, and be absolv'd quickly or soon after it is taken, or at least be not retain'd in the Stomach, as long as it ought, and is requir'd to be duly and sufficiently alter'd and fermented.

7. That *Expulsion* is tri'd and finish't in a *preposterous way*, and so is deprav'd, when Food is again expell'd out of the Stomach, not downward to the Guts through the *Pylorus*, but upward to the Mouth through the Gullet, and a Vomiting is rais'd.

8. The *Expulsion* of Food out of the Stomach, is *Abolish't*, or rather *Diminish't*, both by fault of the Food it self, and also of the Stomach.

9. It happens by the fault of the Food suddenly, as often as it is taken in *too great plenty*, whence the Stomach being stretch't very big, returns over-slowly and difficultly to its folding together, and in the mean while suffers a grievous sense of weight and heaviness.

10. This *Diminish't Expulsion* happens by fault of the Ventricle slowly and constantly, when the Stomach is either lank, according to its *membranous substance*, by the too much and daily use of watry things, clean Water, especially cold Beer, very moistening and cooling *Decoctions*, &c. or becoms weak in its Fibres, by reason of very cold Drink, or stupifying Medicines, stopping the passage of the Animal Spirits to the Ventricle, or thickning them there, or coagulating them, or otherwise making them sluggish and unprofitable.

11. The *Expulsion of the Food* out of the Stomach is sooner than it ought, because it is stirred up by the fault of the Stomach it self, or of Food, or of other Humors carri'd to the Stomach.

12. This

12. This Irritation (or stirring up) is by the fault of the Stomach, when it is either Inflam'd, or Excoriated, or Exulcerated, whence it is forth-with provok'd to contract it self, and expel what is in it by any Food, though most temperat and friendly, and taken in a moderat or little quantity.

13. This same Irritation is by the fault of the Food, when it is either sharp, or at least sauc'd with sharp things.

14. Last of all, the Irritation of the Stomach coms by the fault of other Humors, when Humors or at least sharp Vapors slide down from the Head, and are swallow'd, or rise up from the Guts (even while the Food is Fermenting) to the Stomach, and gnaw it with their Acrimonie, and stir it up to fold together, and to expel the Food contain'd either up or down.

15. We intend to treat of Vomiting, or the Deprav'd Expulsion of what is in the Stomach upward by the Mouth, seeing more things are to be consider'd about it in the next Chapter.

16. The Expulsion of Food to the Guts Abolish't or Diminish't, is to be Cur'd, 1. By promoting the thrusting forward and descent of what is in the Stomach, using somtimes by spoonfuls the Oil of sweet Almonds or Olives, whereby the Food becoms more Fluid, and the Pylorus is easier and more open'd to give it way to go out.

17. 2. If it much press and trouble the Stomach, and that the strength of him so affected be sufficient, by stirring him up somtimes to Vomit, with the Finger put into the Throat, or a Feather moistned with Oil, and also compressing the Belly, that so what is eaten may the more easily be sent back, and driven up, especially things that are liquid and to be Drunk:

It

It will be better, 3. *to hasten the Solution and Fermentation of what is Eaten*, (seeing it is not easily vomited up alone) *with such things as are spiritous, and abound with volatil Salt, or with Aromatics*, by which afterward they may be sent down, or up as the matter requires.

18. 4. *Diligently beware* from any farther cramming in of much Food.

19. 5. *By strengthening the weak Stomach* with Aromatics mixt with lively Wine, or its Spirit.

20. 6. *By abstaining from things that are very watry*, chiefly actually cold or chill; and instead hereof using *spiritous and little Drink*, as *Spanish, Canary*, or any other strong Wine.

21. 7. *By restoring the sluggish and stupef'd Animal Spirits*, by a Medicinal Wine, or its Spirit infus'd in Aromatic Plants, and often us'd in a small quantity.

22. *The Cure of the Inflammation and Excoriation of the Stomach*, may be known by the general Treatise of those Diseases hereafter to be given.

23. *Over-sharp Food* is to be shun'd, at least temper'd; and instead thereof, sweet and mild things are to be us'd.

24. *The Cure of sharp Humors* is partly given already, and shall be more known anon.

CHAP. IX.

Of Loathing, Belching, and Vomiting.

1. **I**N perfect Health, and a natural State, nothing at all is wont to be driven forward out of the Stomach by the Gullet; so that whatsoever rises that way, gives us a certain sign of Health weakned, whether it be *Food*, or any other thing ascends in the form of a *Rising*, *Wind*, *Vapor*, or a more fluid or thick *Liquor*. and is expell'd by the Mouth.

2. Where any thing breaks up in the kind of a *Rift*, or a *Vapor*, with noise, it is properly call'd a *Belch*. and that avoided *Belching*; as, where *Food* or any *Humors* are driven forward up out of the Stomach, a *Vomit*.

3. A *Loathing* is wont to precede a Vomiting always, and often a Belching, or an inclination less or less to a vomiting, although that endeavouring to Vomit be sometimes in vain.

4. *Rifts*, because of the toughness of their Matter, do cleave more to the Ventricle, and are more hardly excluded, whence often a *swelling of the Stomach*, and troublesome distension accompanies them; which ceases, or is eas'd after the Wind is belch'd. But *Vapors* and *Rifts* do more easily break out of the Stomach, and but seldom give a notable sound, but only an *hissing*, whilst *Belches* are often loud enough, and make a sound more or less strong, according to the more or less viscosity of their Matter.

5. *Belches* have their rise, either, 1. from Food it self, or other windy things taken, as *Cheesnuts*, *Pease*,
Beans,

Beans, Turneps, Radishes, &c. Or, 2. from a Phlegmatic and Viscous Humor, both cleaving in the Stomach, and rarefi'd into Wind by *Aromatics taken*, and also found in the small Gut, and in like manner turn'd into Wind by *Choler*, and driven forward to the Stomach.

6. That *Choler*, as consisting of a volatil and oily Salt, is the *internal efficient Cause of Wind*, both every volatil Salt, and especially oily, and also every part of Plants fit for discussing Wind, Seeds chiefly us'd by any that has viscous Phlegm in the Stomach or Guts, and in the beginning raising or encreasing Wind, and at length dissipating them, do confirm.

7. That the material Cause of the same *Vapors*, is a Phlegmatic and indeed Viscous Humor, is manifest both by their *Antecedent Causes*, such like *Food, Sweet Milk, Fishes*, and especially *Sea-Fish*; the extreme parts of Creatures, as their *Feet*, which contain a viscous Jelly, &c. And also by their *Cure*, by only correcting and educing the Phlegmatic and Viscous Humor, which is wont to be perform'd safely and happily.

8. As in a *Belch Wind* only, so in *Vomiting* either *Food*, and that sometimes *Crude*, other-times more or less *fermented*; or manifold *Humors*, as *Watry, Scrovis, Phlegmatic, Melancholic, &c.* Thin or Thick, White, Yellow, Green, Cernleous, Black, &c. *Inspid, Bitter, Sour, Sharp, Sweet*, sometimes *mixt*; *Stinking*, or *without smell*; *Acrimonious*, or *mild*: Sometimes *Blood*, or also *Matter*; and sometimes *Excrements* returning to the Stomach, are cast out sometimes easilier, other-times more difficultly by the Gullet and Mouth.

9. All *Vomiting* follows the *Stomach*, either *primarily*

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marily or secondarily affected, with its contracting Motion turn'd upward from its lower part.

10. The Stomach is affected *primarily*, when the Cause of Vomiting is only in it, and by its contracting Motion turn'd; As, *secondarily*, when the Stomach is drawn by *consent* of other parts first affected, and is provok'd to turn its contracting Motion; whether this be by the *contracting motion of the Guts* also either *wholly* or *in part chang'd*; whether this happen by the *Midrif*, together with the Muscles of the Belly *vehemently shak'd*, and *that upward in a grievous Cough*.

11. The Stomach is *primarily* affected to Vomit; 1. when it is *Inflam'd, Excoriated, or Exulcerated*; for then it's easily stirr'd up by any Food to any sort of its violent Contraction, and so to turning of its Motion. 2. When Food is taken in plenty, and chiefly *troublesom and grievous* to the Stomach in its *quality*, and therefore urging it to its preternatural contraction, and so to the casting out of what is in it. 3. When *sharp Humors* slide down from the Head into the Stomach, and stir it up, and even compel it to contract it self *perversly*, by *corroding and gnawing* it about its lower Orifice.

12. The Stomach is drawn to consent, and compell'd to Vomit, *by the contracting Motion of the Guts wholly chang'd*, in that most grievous Disease call'd *Ileus*, in which sometimes also Clysters given are again cast forth by the Mouth.

13. Vomiting is often rais'd by the same Motion only *in part chang'd*, both in the Disease call'd *Cholera*; and also in any other *vitious thrusting upward the Humors, raising an Effervescency in the small Gut*; and also when the *Excrements descent is hindered*, and in the *regress and ascent* thereof following.

14. It

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14. It is most certainly known, that *Vomiting* often rises in a *vehement Cough*, and *strong shaking of the Midriff*, a *potent contraction of the Muscles of the Belly* happening; which we think is by a *conjoin'd compression* then of all the *Bowels contain'd in the Belly* made upward toward the *Breast*, and exceedingly *vexing the Stomach* it self with what is in it, and urging it to change its natural Motion.

15. The *Breeding and Cure of the Inflammation, Excoriation, and Exulceration of the Stomach*, is to be requir'd of the *General Treatise of those Diseases* to be given in their proper place.

16. A *Vomiting* rais'd by what is *Taken in*, is for the most part quieted of its own accord, when it is cast out, and repress'd by the use of a few *Aromatics* and *Opiats*, and so Cur'd. For Example;

Rx. *Mint-Water* ℥ ii. *Tincture of Cinamon* ℥ ii.
Laudanum Gr. ii. *Syr. of Mint* ℥ ss. M.

Let the Sick take one Spoonful in short spaces between, and the Vomiting will soon cease.

17. *Sharp Humors sliding from the Head into the Stomach*, are thence to be remov'd with *Purgers*, often mention'd; or to be corrected with things that alter and temper the hurtful *Acrimonie*.

18. The same *standing in the Head*, are either to be temper'd there, or purg'd out by the *Nostrils*, or other most convenient ways, even universal, with *Medicins* often nam'd.

19. Of the other *Diseases drawing the Stomach into Consent*, we intend to speak hereafter.

20. A *bloody Vomiting* rising by *Blood* flowing out of the *Vessels of the Stomach*, or *Guts broken*, or corroded may be Cur'd, the *Vessels* (being again clos'd) by the following *Mixture*, profitable also in other excretions of *Blood*.

Rx. *Plantane-*

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Rx. *Plantane-Water* ℥ ii. *Cinamon-water* ℥ vi. *distill'd Vinegar* ℥ ℔. *Red Coral prepar'd* ℥ ℔. *Dragon's-Blood* ℥ ℔. *Laudanum* ii. *Gr. Syr. of Myrtle* ℥ i. M.

This Mixture often taken by Spoonfuls, will cure the most ruptions of Vessels, and will soon stop the flux of Blood, beyond the expectation of many.

21. *Blood gathered together in the Stomach*, is almost of its own accord sent down by Stool, when its Efflux and Vomiting is suppress'd. Which if there be any fear of Blood coagulated too much, add to the aforesaid Mixture of *Crabs-Eys* ℥ ℔. as also *Diaphoretic Antimonie* ℥ i. and use it as aforesaid.

22. The Vomiting of Matter, when it almost follows the Inflammation of the *Pancreas*, or any Part near it, or a notable Ulcer, whencesoever it rises, will wholly be Cur'd, if the Primary Disease be first Cur'd, which is to be requir'd from what follows; and in the mean while often use the Mixture containing *Diaphoretic Antimonie*, and *Crabs-Eys*; it will moreover be commodious to take a drop of the *Balsam of Sulphur with Anise-Oil* in any Liquor, and then to temper Matter, then to fence, yea, heal the Part primarily affected against any other harm.

23. The Breeding and Belching of Wind may be Cur'd; 1. by shunning *Phlegmatic and windy Food*, so call'd. 2. By cutting, and after that, by carrying out the viscous *Phlegm* in the Body. 3. By tempering Cholera, if it be over-sharp. 4. By Discussing Wind already bred and troublesome.

24. *Acids, and all Aromatics*, and such as are endu'd with a *Volatil Salt*, often mention'd, do cut viscous *Phlegm*.

25. *Phlegmagogues* describ'd in several places of this Work empty the same.

26. In

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26. In this case, *Spirit of Salt Nitre* taken to two or three drops in a convenient mixture, or ordinary Drink, before all others doth best temper *Choler* too sharp.

27. Most *Aromatics* discuss *Wind*, from which *Oils* may be distill'd from *Seeds*, especially *Flowers* and *Rinds*. *Spirit of Nitre* bears the praise before all, every way useful, seeing it corrects both *Phlegm* and *Choler*, and hinders *Wind* in its rise, and dissipates it when it is bred.

28. To curb and discuss *Wind* remaining as well in the *Stomach* as *Guts*, the following exemplary *Mixture* may conduce and serve for *Students*-sake.

Rx. *Mint*, *Fenel-Water*, of each \mathfrak{z} ii. *Spirit of Wine* rectifi'd, or *Aqua Vitæ* of *Matthiolus*, or our *Carminative Spirit* \mathfrak{z} i. best *Spirit of Nitre* 20 drops, *Laudanum* 3 Gr. distill'd *Oil of Mace* 6 drops, *Syr. of Mint* \mathfrak{z} i. ℞. M.

Let this *Mixture* be taken by *Spoonfuls* often, or more slowly, as *Pains* or *Stretchings* do more or less urge.

29. Because we have here mention'd our *Carminative Spirit*, we not unwillingly communicate its Description to *Younger Physicians*, seeing we have often experienc'd its great *Vertues* with much profit to our *Patients* this many years.

The Carminative Spirit of Sylvius.

Rx. *Angelica-Root* \mathfrak{z} i. *Mustertwort*, *Galmgal-Root*, of each \mathfrak{z} i. ℞. *Rosmarie*, *Sweet-Marjoran*, *Garden-Rue*, *Basil-Leaves*, the tops of *Centaurie* the less, of each M. ℞. *Bay-Berries* \mathfrak{z} iii. *Angelica*, *Louage*, *Anise-Seeds*, of each \mathfrak{z} ℞. *Ginger*, *Nutmegs*, *Mace*, of each \mathfrak{z} i. ℞. *Cinamon* \mathfrak{z} vi.
E Cloves,

Of the Separation of Chyle

Cloves, Orange-peel, of each ʒi . These being cut and grossly beaten, pour thereon Spirit of Malaga, or Spanish-Wine ʒ xl .

Digest them two days in M. B. and Still them dry. Whatsoever ascends let be poured upon the Mass, digest it two days, and then Still three parts of four. Keep the Spirit distill'd for your use.

30. If any will, he may pour upon what remains common Spirit of Wine, but rectifi'd ʒ xx . and distill it after two dayes digestion, as long as a strong Spirit comes away, which may be kept a-part, as weaker than the former, but of much vertue to discuss Wind; if, as is here done, it be join'd to convenient Mixtures, or sweetned with Sugar dissolv'd in Rose or Fenel-Water, and us'd more pure and potent.

C H A P. X.

Of the Separation of Chyle from the Excrements deprav'd.

1. **A**S all Food needs not to be finisht with usual Fermentation in the Stomach, to wit, Drunk either Watry or Spiritous, or enough fermented before, but chiefly that which is viscous, and hath its parts ever-closly connext; such as are most Meats, especially solid, and among them Bread a little or nothing leaven'd; so the Parts of Food which are profitable to nourish the Body sometimes of their own accord, at least more easily, other-times more difficultly, and not without the help of another, do they separate from the rest of the Parts, being many, rising most commonly from Meat, which are again sent out by Stool, as un-

fit to refresh the Body, after some stay in the thick Guts.

2. The Food therefore being Fermented in the Stomach, and sent into the Guts, *Choler*, and the *Juice of the Pancreas*, and *Spittle* also constantly swallow'd, are mixt there for the most part four fingers breadth below the *Pylorus*, which *Spittle* stays but a little while in an healthy Stomach, and void of Food, and hastens suddenly to the Guts, and together with the aforesaid Humors, if I may speak safely in *Helmont's* terms, exercises a very notable *Triumvirate*, or three-fold sway in the *æconomie* of Man's Body.

3. These three being rightly constituted, it's observ'd that the separation of the liquid and whitish Part from the thicker Part follows this mingling, and gets a divers colour and consistency, according to the diversity of Food, or Medicins us'd together.

4. The tender, fluid, and whitish Part we call, by way of excellency, *Chyle*, which goes forward through the spongy Crust of the Guts, the *Lactéal Veins*, and *Thoracic Passage* to the Heart, to get the Form of Blood; whilst the thick, solid and diversly colour'd part of Food is thrust down to the great Guts, in which it gets the name and form of *Excrements*.

5. We give the priority to *Choler* in the promotion of this Separation, in as much as it mildly cuts the viscom parts of Food by its volatil and oily Salt, and frees the Fluid parts from them, and makes these more fluid, yea flowing.

6. To *Spittle* we ascribe, that by its promoting the Fermentation of Food more and more, and by diminishing the viscosity thereof, it makes it all the more fit for its desir'd Separation.



7. Lastly, We judg that the *Juice of the Pancreas*, by its somewhat acid Spirit, does more potently loosen the same obstinate Viscidity of Food, and gives occasion also by compelling its most viscous parts of flowing together with the more fluid parts, and presently to flow through.

8. These three-fold Humors are requir'd to perform such a benefit to Man's Food being temper'd according to their convenient manner, and degree for this Work.

9. The chief part of which *Choler* consists, is thought by me to be a *lixivial Salt*, temper'd as well by a *volatil Spirit*, as *Oil*.

10. And the chief Part constituting the *Juice of the Pancreas*, seems to me to be an *Acid Spirit* temper'd, especially with a *volatil Spirit*.

11. Although the most part of *Spittle* be deservedly judg'd Water, yet is it not that which chiefly promotes the Separation of *Chyle*, but both the *Acid Spirit*, and *Lixivial Salt* temper'd together in it by a *volatil Spirit*.

12. Although I think that more do concur in the making of all these afore-nam'd Liquors, yet do I judg that the parts newly mention'd are the chief in performing this present Separation.

13. As often therefore as one, or two, or all of these three Humors are ill-order'd, so often the Separation of *Chyle* from the Excrements will be vitious; which also may follow the fault of Food ill-fermented.

14. The same Separation is accounted to be deprav'd; 1. when there is none, and although the Food be fermented, and brought to the consistency and form of a Pultis, it is by degrees driven forward whitish through the Guts, not colour'd with any yellow-

yellowness of Choler, the Leanness of the Universal Body concurring, and a notable decay of all the strength, which is in the first kind of the Disease call'd *Celiac*, which for distinction-sake we call the *Jaundice-like Flux* in the thirteenth Chapter of this Book.

15. The same *Separation* is deprav'd, 2. when it is more sparingly and *Diminish'd*, at least different in degree from the now-mention'd kind; wherein the Excrements do indeed keep the consistency of a Pultis, and come forth more or less colour'd, the Body also pining slowly, and its strength languishing.

16. The same *Separation* is deprav'd, 3. when that which is unfit, and therefore hurtful, being separated from the dreggish part of the Food, goes forward together with Chyle to the Blood; which whether any call it *Encrust* or *Deprav'd*, I think there is no matter, if it be clear about the thing it self, so that thence a convenient Cure may be instituted.

17. The *Separation of Chyle* from the Excrements is *Abolish'd*, either by the fault of Food not agreeing with the peculiar Constitution of him that takes it in, or otherwise vitiously fermented, or of the Humors mention'd Choler, the Juice of the Pancreas, or Spittle.

18. Food that is incongruous or much loath'd, as it will not easily be fermented, so neither will it suffer it self to be separated afterward into useful and unuseful parts.

19. The best Food also, and that which agrees and is most grateful to every one, if upon any account whatsoever it remain crude, and be not prepar'd to the separation of its parts that ought to be in the Fermentation, then the *Separation of Chyle from its Excrements* will be expected in vain.

20. Although the most volatil and spiritous, together with the watry Parts, do perhaps separate of their own accord, from the rest of the Food fermented as it ought, and may be strain'd through into the Lacteal (or Milkie) Veins, yet the Oily, Saltish, Acid, Earthy, and other parts also useful and necessary to nourish the Body, need a farther and new preparation before they can leave the over-viscous, tart, and other parts less fit to nourish the Body well.

21. This Separation will be wanting as often as the volatil Salt of Choler is sluggish, or Choler is not carri'd down to the Guts; either of which has place in the Jaundice, wherein the Excrements use to come away whitish and not colour'd.

22. The Volatil Salt of Choler is sluggish, by reason of very viscous Food and also fat, yea sometimes spiritous, and also Spirit of Wine; the abuse whereof the Jaundice, as well as the Ascites Dropsie commonly follows. Which will be sooner and more potentially, if Medicines, or rather Poison that breaks the volatil Salt of Choler, were taken in or receiv'd from without.

23. Choler is not carri'd down to the Guts, either when it is obstructed, by turning into Stones, or a stony Crust, or by viscous Phlegm in the passage thereof into the Guts.

24. That Viscous Phlegm may be mixt with Choler, and cleaving by degrees more and more to the Passage, may at length obstruct it wholly; or being carri'd together with the Juice of the Pancreas in the concurrence of the Passage of both Choler and the Pancreas, and stop the Out-let of Choler especially, being less potent to cut it; or being in the small Gut, stops the same Orifice, denying passage to Choler.

25. I cannot think this Separation of Chyle can
be

be destroy'd by the Juice of the Pancreas alone, or Spittle vitiated; although I may judge that defect may be promoted by their visciditv and sluggishness, and that Separation sometimes be Diminish'd.

26. The toughness and sluggishness of the Juice of the Pancreas, as also of Spittle is to be requir'd from the over-much and prolong'd use of Viscous Food, and chiefly Sea-Fish, and Bread not enough bak'd, or leaven'd, or boild, as in Puddings, and other things very fat, &c.

27. The common cause of Separation of the Useful, from the unuseful Parts of Food Diminish'd, is Cholera descending over-slowly or sparingly to the small Gut, for the Causes newly mention'd, or lighter.

28. If any say those contrary to the aforesaid are the Causes of Separation Deprav'd or Encreas'd, he will not easily be deceiv'd. For, 1. Food that most agrees with the Constitution of every one, and is more greedily desir'd before others, will be fermented easilier, sooner, and more, and therefore will afford more of its Chyle than is wont.

29. The same, if they be of a wholly laudable Juice, will scarce harm the Body, unless a Plethora and an Athletic Habit be thence fear'd.

30. The same, if they be of a less laudable Juice, will easily bring on a Cachexy; neither will the containing Body then be nourish'd conveniently, or the Strength refresh'd, which we think consists for the most part in the things contain'd. Hence we judge it is, that sometimes many both desire and digest much, and less laudable Food, and in the mean time by degrees grow lean and defective, or are Cachectic.

31. 2. Food that is of an indifferent Nature,

that is, not less containing excrementitious, than nourishing Parts, and either taken in a less quantity, or more sparingly, or fermented more potently by the help of *Some Sauce or Medicin* us'd, will yield its Liquid, and also Excrementitious Parts easier, and also more plentifully, to be strein'd and carri'd through towards the Heart together with Chyle, and hence gives occasion to vitiate Nourishment any way.

32. 3. *Choler sharper than natural*, will loosen and receive more of the Food than ought, though well fermented; whence any may see that the Chyle will also be less laudable.

33. 4. I judg *the Spittle*, or *Pblegm* that rises from it, or the *Juice of the Pancreas* can produce this evil so far, as they abounding with a Volatil Spirit, do more, and so too much ferment the Food sufficiently fermented in the Stomach, whil'st it is carri'd through the Guts; and so give occasion to separate useful and also hurtful parts together with laudable Chyle, and to be carri'd into the Lacteal Veins.

34. But here is a greater Hurt to be expected, when *Choler*, or *Spittle*, or the *Juice of the Pancreas* only are peccant; and a lesser when they are all peccant, because then they almost mutually temper themselves.

35. *The Abolisht Separation of Chyle may be Cur'd*, that rises by fault of Food it self, or Fermentation, in their Amendment, of which before.

36. The same arising from the *sluggishness of Choler* may be Cur'd, by often using a *sharp Volatil Salt*, prepar'd of whatsoever, as *the sharp Aromatic Plants*, *Scurvie-Grass*, *Cresses*, *Mustard*, *Horse-Radish*, &c. whereby both the viscosity of Choler is corrected, and its Acrimonie restor'd to the Salt.

37. The same arising from *Choler not carri'd down to*
the

the Guts may be Cur'd; 1. By Dissolving Choler turn'd into Stones, by the Juice of Grass, and especially by the Spirit of Nitre that dissolves any Stones, &c. 2. By cutting Phlegm, obstructing the passage of Choler into the Gut, by what is already mention'd, and any thing else before commended, both Acids, and also such things as have a Fixt or Volatil Salt, whether alone or mixt; such as are the vitriolated Salt of Tartar, Salt Armoniac, &c.

38. The farther use of Viscous Food is to be desisted from, and instead of Sauce, use often the newly mention'd Aromatics, Mustard, Horse-Radish, and such like, whereby the over-viscous Phlegm, wherever it be, may by degrees be corrected.

39. Volatil Salts taken for a space at Dinner, or Supper, in Wine, or other Drink, will do the same no less successfully, as we have often said.

40. The Separation of Chyle Diminish'd may be Cur'd the same way, and by the same means, and that easier.

41. Lastly, The Separation of Food Encreas'd or Deprav'd may be Cur'd; 1. By taking Food more difficult to Ferment; at least in a more than usual plenty, if it be of easie Fermentation; and then abstaining carefully from Sauces that promote Fermentation, and rather using certain things that binder it, Coral, Chalk, &c.

42. Over-sharp Choler may be potently temper'd with any sour, and chiefly tart thing, as Verjuice, the Juice of Barberies, Pomegranats, &c. As also viscous things, both Food, Fishes, especially Sea-Fish; and also Medicines, Sweet-Almonds, and also their Emulsion, &c.

43. Spittle, or the Juice of the Pancreas, abounding with Volatil Spirit, if here peccant, may be amend-
ed

38 *Of the Vicious Effervescency of Choler,*

ed by abstaining from the plentiful use of *strong Drink*, and abounding with a *Volatil Spirit*, and substituting in its place more *watry and somewhat tart*, unless any thing else hinder.

CHAP. XI.

Of the Vicious Effervescency of Choler, and the Juice of the Pancreas ; together with Phlegm continually rais'd in the small or thin Gut.

1. *Choler and the Juice of the Pancreas* do not only, *flow together into the small Gut*, when the Food fermented is driven forward out of the Stomach to the Guts; but *continually*, and so also at that time are they carri'd thither, when no Food is taken in or carri'd down to the Guts, and of necessity they stir up an *Effervescency in their Concourse there*, for the somewhat contrary disposition of their Parts, mild and friendly to Nature in Health, that is, as long as both is well dispos'd and temper'd; but *vicious and burtsful* where either, or both of them is intemperate and over-sharp.

2. Because that *Phlegm* is always observ'd according to Nature to reside in the small Gut, and to rise from *Spittle* continually swallow'd down, upon which account the aforesaid *Effervescency* is somewhat chang'd: I take it, that in that *Conflux* of these two Humors the *more fluid part of Phlegm* adhering to the sides of the small Gut is dissolv'd, and that the same being join'd with the most part of *Choler*, and
the

the Juice of the Pancreas encreasing, pierces into the Lacteal Veins to the Heart, whilst *the tougher and more viscons part* of the same *Pblegm*, with some part of the other *Humors* also *viscons*, goes by degrees to the thick Gut; and being there mixt with the *Excrements*, makes them more viscons and yellow.

3. This *Three-fold Humor* rising from *Choler*, *the Juice of the Pancreas*, and *the Pblegm of Spittle*, and halting with the *Lympha* to the Heart, seems to me to give the natural *Consistency and Coagulation* to the *Blood*; as I judg the natural *consistency of Blood*, howsoever vitiated, for the most part to be attributed to the same *three-fold Humor* variously vitiated.

4. Therefore I am perswaded that the *Effervesency* is rais'd up by this Conflux of these three *Humors*, because I do not only judg it may be concluded, that *the Juice of the Pancreas* is *sowr*, by divers Diseases befalling Man unnaturally, but that same is most abundantly evinc'd by the industry of the most ingenious *Anatomist*, (*Regnerus de Graaf*) my most Beloved Scholar; as is manifest by his *Dissertation of the Nature and Use of the Juice of the Pancreas*, a year since in this University publickly disputed, I being President.

5. It is impossible that such *Juice of the Pancreas*, which is, *any manner or degree sowr* should mix with *Choler*, abounding with a bitter and volatil Salt, but presently an *Effervesency* should be rais'd thence, which may be confirm'd with infinite Examples to be had from Chymistry and elsewhere.

6. That this *Effervesency* in time of Health is very mild, is even manifest, because it is not perceiv'd in healthy People; which notwithstanding is often so manifest and hainous in Sick People, that it bewrays it self by *Gnawings, Distentions, Gripes, Coldness,*

60 *Of the Vicious Effervescency of Choler,*

Coldness, Heat, Belchings, &c. both in the Region of the Loins, and in the left *Hypochondrium*, and also sometimes in all the Belly.

7. Which aforesaid *Effervescency* is many ways vicious; 1. Because of *over-sharp and saltish-Choler*; whence I am perswaded that *Thirst* for the most part is Encreast, and the *Diarrhea* most commonly takes its rise.

8. 2. Because of *Choler fatter than natural*, whence I take it, that the *Heat in the Region of the Loins* only, or besides in the whole *Body* is produc'd.

9. 3. Because of the *over-Acidity and Acrimony of the Juice of the Pancreas*; whence other things being alike, I judg that *coldness* is stirr'd up most commonly in the mention'd *Region of the Loins*, and afterward distributed into the whole *Body*; which is manifest in the *beginning* of almost every *Intermitting Fever*.

10. 4. Because of the *Juice of the Pancreas Tart and harsh*, to which I ascribe the rising of such-like Vapors, producing the *Hypochondriac Suffocation*, and also of *Pains* wonderfully racking and contorting the Guts.

11. 5. Because of *over-viscous Phlegm*, from which such-like Wind is wont to be bred, distending the Guts and Ventricle, or more-over other parts, chiefly when *Choler is over-sharp*; or otherwise the *Blood* is made tough and viscous, known by the name of *Melancholic*.

12. Where *Choler* and the *Juice of the Pancreas* are both peccant in their proper *Acrimoniae*, most grievous pains are stirr'd up in the small Gut, and the *Disease Cholera or Dysenterie*, &c. do often couple them; and almost always an *inordinate Fever*; about all which we intend to speak in their proper place.

13. Where

13. Where moreover *Pblegm* is very *viscous*, or otherwise vitious, there the rise of the *Diseases*, Suffocation, or *Hypochondriac Melancholy*; the *Scurvy*, *Cholic*, and other *sueb-like Diseases* more grievous, daily manifests it self now in this or that, and commonly in a changable form.

14. Of the almost *innumerable Diseases* that rise from the *vitious Effervescency* of these three *Humors* flowing together in the small Gut, we may Treat almost through the whole Practice of Physick, seeing the most depend on it.

15. For by this vitiated mingling, not only hurtful *Humors* are produc'd, but often *Wind*, *Vapors*, or *ill-Rifts*, causing much hurt to Man.

16. Therefore it concerns, that every Physician should search out and inquire diligently as, the Matter concerns, the Nature and Qualities (both Natural, and Temperate, and also Preternatural, and changing from its proper temper, which causes infinite harm to Man) of these three *Humors*.

17. The Effects and Diseases proceeding from this vitious Effervescency are most noted and daily, although the reason and rise of them for the most part is unknown to us.

18. *Over-sharp Choler* follows; 1. *Over-sharp Food*, at least sauc'd with sharp and very aromatical things. 2. *Summer-Air*, or hot, by any other Cause. 3. An *over-vehement Motion* of the Body. 4. *Over-long Watches*. 5. *Frequent Anger* and *Cares*. 6. *Over-coldness*.

19. *Choler over-fat* is chiefly caus'd by *sueb-like Food* plentifully us'd, *Oil*, *Butter*, &c. as also by Medicins Aromatical, very oily too often, and long us'd, *distil'd Oils*, as also by the *Spirit of Wine*, especially prepar'd with oily things, as that with *Anise-Seeds*, &c.

20. The

62 *Of the Vicious Effervescency of Choler,*

20. The exceeding *Acidity* of the *Juice of the Pancreas*, arises, 1. by such-like *Food*, *Sauces* or *Medicines* us'd too much, too often, or too long. 2. By *Winter-Air* too cold, or at least too sharp. 3. By *Fear* and any *Sorrow*, or grievous *Solicitude* of *Mind*. 4. By continuing *Watches*, which consume the *Animal Spirits*, and by consequence increase the *Acrimony* of any *Humors*. 5. By a continu'd and vehement *Motion of Body*, exhaulting those *Spirits*. 6. By *Costiveness*.

21. The tartness of the *Juice of the Pancreas* arises especially from such-like *Food*, or rather *Sauces*, or *Medicines*, and unripe *Fruits* ill us'd, *Apples*, *Pears*, *Medlars*, *Chestnuts*, *Olives*, *Verjuice*, &c. as also from grievous *Sorrow* continuing long, chiefly join'd with *Solicitude*.

22. *Phlegm over-viscous* owes its rise, 1. to such-like *Food*, especially *Sea-Fish*. 2. To moist, cloudy, soaking *Air*. 3. To an idle *Life*, and without cares, with much *Sleep*. 4. To rest and sluggishness of *Body*. 5. To a fearful and sluggish *Mind*. 6. To the slow voiding of most *Excrements*.

23. Every mention'd vicious *Effervescency* of the three-fold *Humors* may be Cur'd, by correcting or purging out its *Internal Cause*, and shunning or amending the *External Cause*; diligently considering whether one only, or more together be peccant.

24. Those things which correct over-sharp *Choler*, are propos'd in *Chap. 1. Sect. 11*, &c. Those things that evacuate it, *Chap. 2. Sect. 41*, &c.

25. *Choler* satter than ought is Corrected, both by abstaining from the use of *Fat things*, and by often using *Acids*, but more temperate, chiefly to season *Food*, to wit, the *Juice of Citrons*, *Oranges*, some *Pomegranates*, *Barberies*, *Currans*, *Verjuice*; or by mixing

and the Juice of the Pancreas, &c. 63

mixing some of them with *Ordinary Drink*, and especially the Spirit of Salt, or Nitre dulcifi'd, &c.

26. Those things that *diminish and temper the over-acid Juice of the Pancreas*, may be requir'd from Chap. 2. Sect. 17, &c. of this Book.

27. I have found hitherto, that when it is *too tart*, it is Corrected with *Spirit of Salt Armoniac*, and any other *Volatil Salt*, especially if *Oily*, before any other things, often us'd at any time in Wine, or any other convenient Liqueur.

28. The same being *Corrected and Temper'd*, is *Evacuated* commodiously with *Hydragogues*, of which we have spoken Chap. 7. Sect. 53, &c.

29. Several things do *amend viscus Phlegm*, of which we have spoken Chap. 2. Sect. 28, &c.

30. *Phlegmagogues* educe the same, which we have noted there, Sect. 29, 33, &c.

31. The Physician sooner forbids, than the Sick shuns the *External Causes*; and is to be admonish'd of the Physician, that he blame not him afterward for the continuance of the Disease.

32. Those *Non-natural Things* not naturally enough occurring, which cannot be shun'd wholly, ought to be Corrected as much as can be, *Food* especially by convenient *Sauces*, and such as do amend its Hurt, often mention'd here and else-where.

33. The *Air*, if it be *hot*, should be temper'd with *clean Water*, *cooling Plants*, so call'd, or their Decoctions, *Vinegar*, and such-like; if *moist and cloudy*, it should be Corrected with a *clear Fire*, and *Aromatic Plants*.

34. Let *Watches* be *moderate*, according to every one's Constitution.

35. So let the *Motion* of the Body be *mean*.

36. Let

64 *Vitious Effervescency of Choler; &c.*

36. Let the *Mind* be free from all grievous *Passions*, at least let it be freed from it, as much as can be; which is never obtain'd by *Medicins*, always by the power and weight of *Reasons* whencesoever drawn; for which therefore, a prudent and skilful *Physician* is no less us'd than a *Divine*, a *Counsellor of Law*, or an *Orator*, as the *Instruments* not only useful, but even necessary to restore the lost Health of Man.

37. The *Body*, as much as can conveniently be, should be kept or made *Lax*, both by Food agreeing most to every one's peculiar Constitution, and also sometimes by *Medicins* that are call'd *Looseners*, *Prunes*, *Currans*, *Creme of Tartar*, the *solutive Sirup of Roses*, and such like.

38. The *Body* also may be kept open, both by soliciting it by a *Suppositorie* of boild Hony, and Sea-Salt, or Salt-Gem, or of a piece of Roch-Alume, being cut into a long piece, and anointed with some Oil; also by an *Emollient Clyster* given, which more-over discusses Wind; The form whereof let this or such like be.

℞. *Marsh-mallow Root* ℥ ii. *Mallow-Leaves*, *Melilot-Tops*, of each M. i. Boil them in *Barley-Water*, strain ℥ viii. in which dissolve the *Catholic-Electuary*, or *solutive Diaprunus*, or *Laxative Benedictus* ℥ i. Oil of *Roses*, or of *white Lilies* ℥ ss. M. for a *Clyster*, to be given at any time, and kept in the *Body* half an hour or thereabout.

CHAP.

CHAP. XII.

Of the Propulsion and Expulsion through the Guts, of what is contain'd in them deprav'd, and in particular of a Costive-Body.

1. **B**Oth Food prepar'd in the Stomach, and *Spittle* continually swallow'd down, and hence carri'd through the Stomach to the Guts, and *Choler* out of its Bag by its passage into the Gut, and the *Juice of the Pancreas* through its proper Passage, hastning to the Gut, and the *Mixture* made of all these, are to be driven forward yet through the long *Fistula* of the Guts, till the *useful Parts* being sent all over through the *Lacteal Vessels* to nourish each Body, the *unuseful Parts*, known by the name of *Excrements*, are at length *Expell'd* and *Voided* by *Stool*.

2. This *Propulsion* and *Expulsion* of the various things contain'd in the Guts, as well according to as against Nature, is *deprav'd many ways*; whilst 1. it happens too slowly or sparingly; or, 2. when it is too quick, often, or plentiful; or, 3. when it is finish'd with Pain or Vexings; or, 4. done an *unusual way*.

3. It happens too slowly or sparingly, when the Body is more or less Costive.

4. It happens too quickly, often, or plentifully in any Looseness.

5. It is done with Pain in Gripes of the Belly, the Colic, Dysenterie, Tenesmus, &c.

6. It is perform'd by an unusual way in the Disease
F Cholera,

66 *Of Propulsion and Expulsion, &c.*

Cholera, Ileos; and other Vomitings caus'd by the Guts, as also in *Wounds* and *Ulcers* piercing through the *Tunicles of the Guts*.

7. We reduce as well an *over-flow Propulsion* of what is contain'd, as the *too seldom* and *sparing Expulsion* thereof through the *Fundament*, to an *over-costive Body*, of which we intend to speak in this Chapter.

8. The *Propulsion* of what is contain'd, proceeds *too slowly*, and hence is their *Expulsion* through the Guts *too seldom*, when the *Excrements* are voided in the second, third, or fourth day, or slower, which should be daily at least once.

9. Which falls out, because *what is contain'd* and driven forward, is *too viscons*, or *too much hardned* or *dry'd*.

10. The *things contain'd*, owe their *visconsness* to the *Non natural Things* mention'd in the former Chapter.

11. But their *hardness*, both to *such-like Food*, *Bone-like*, and *Gr'slish*, and also *too tart Wind*, yielding a firmer *Consistency* to what is contain'd.

12. They have their *driness* because of *Chyle over-plentifully made*, and sometimes by reason of *too little Drink* us'd with *much Bread*.

13. The *Excrements* move *too sparingly*, because some *part* of them is separated and *driven forward* into the *Lactical Veins*, together with *Chyle*, of which fault we spoke in *Chap. 10.* or they are *excluded* by *another and undecent way*, as, well in a *Vomiting* preternatural, having its rise from the Guts, as in a *Wound*, or notable *Ulcer of the Guts*.

14. The most things that conduce to *cure* this Disease are propos'd before, especially such things as agree to *amend the visconsness* of *Humors* and *Vapors*.

15. Be-

15. Besides a Clyster of warm Cows Milk, and a little Honey, given and retain'd for some space conduces much to soften the hard Excrements, and to dissolve those that are too viscus; for so the Excrements that are softened, are not only carri'd out, but Wind also is invited to an easie Out-let, or at least dispos'd to cease.

16. The Clyster also prescrib'd in the former Chapter, may be given to loosen the Body; or a convenient Suppositorie given, as we have noted there of *Alume*, which I prefer before all others.

CHAP. XIII.

Of a Loosness.

1. **A**S often as the Propulsion of what is contain'd in the Guts, and their Expulsion happens quicker, and especially oft'ner, or more plentifully than is wont and ought, so often one is said to be troubled with a Loosness.

2. A Loosness is, distinguish'd into divers sorts, and specially by reason of the different thing voided. For, 1. sometimes Food it self is voided, Meat and Drink, crude, and unchang'd, and as they were, if not when taken in at the Mouth, then as swallow'd down the Gullet, in the Disease call'd *Lienteria*.

3. 2. Sometimes the same Food is sent out, fermented and duly chang'd in the Stomach, but not Separated in the Guts into Chyle, and Excrements, but are Pultis-like and whitish, such as those that have the Jaundice do often void; whence I may say, and not foolishly, that this Loosness may be call'd,

a Loosness belonging to the Jaundice, to wit, one kind of the Disease call'd *Caliaca*.

4. 3. Sometimes Food both fermented, and sever'd into Chyle and Excrements, though as yet confus'd together are voided, in the other kind of the Disease *Caliaca*; which, for distinction-sake, we name the Chyle-like Loosness.

5. 4. Sometimes not the Food only, but watrish and choleric Humors are often or plentifully voided in a *Diarrhea* or Choleric Loosness thence call'd.

6. 5. Sometimes Phlegmatic Humors, thick and viscons are frequently and plentifully voided in a Phlegmatic *Diarrhea* thence call'd; other-times small and serous, milder or sharper in the Serous Loosness thence call'd.

7. 6. Sometimes fat and oily Excrements are voided, in the fat or unctious Loosness thence to be nam'd.

8. 7. Sometimes more pure Blood is voided in a Bloody Purging, to which I think I may refer the Flux of the Hemorrhoids; other-times a Liquor like the washing of Flesh, in the Flux call'd of the Liver.

9. 8. Sometimes Matter and Purulent, or corrupted Stuff is voided, in any Purulent Dejection, so call'd, familiar to a Dysenterie; to which a Tenesmus seems partly to be refer'd, and partly to a Phlegmatic Dejection; seeing that it is a perpetual endeavour to sit down, and void with a little both frothy and purulent voided.

10. Because in the Lienterie Food is usually voided both unchang'd; and a little after it is taken in, it is apparent it comes by the Fault of the Stomach presently rising up to expel what was received in; concerning

cerning which Disease, its Causes and Cure, we have spoken before in *Chap. 6.*

11. Seeing that in the *Jaundice-like Flux* the Food is voided enough Fermented, it is manifest that it proceeds from the defect of the Separation of Chyle, and Excrements, by reason of either the Absence or Sluggishness of Choler; of which we have spoken in *Chap. 10.*

12. Seeing that in the *Chyle-like Flux*, Chyle comes more or less with the Excrements, the Fermentation of Food, and Separation of Useful and Unuseful Parts being intire, the straining of Chyle through the Spongie Crust of the Guts into the Lacteal Veins will be Hurt; of which hereafter in *Chap. 16.*

13. Seeing that in a *Choleric Diarrhea*, Choleric and Watry Humors, or Serous, are effus'd, then that Choler upon the account of its Salt is too sharp and fluid, and the Phlegm of Spittle, or Juice of the Pancreas, is too watry and also fluid, is manifest as well by what is voided, as by Thirst accompanying.

14. A *Phlegmatic Diarrhea* is caus'd primarily by Viscous Food, and such as do breed much Viscous Phlegm; and secondarily, by the cold and sharp Air, both encreasing and coagulating Phlegm in the Blood, and also Separating it in the Brain, or Glandules of the Brain against Nature; whence arise *Phlegmatic Catarrhs*, by which sliding down to the Jaws, and swallow'd down, this *Diarrhea* is often bred.

15. Also much Sleep, a drowsie resting of Body, dull Wit, rainy, or else moist Air, &c. helps much to heap up Phlegm in the Body.

16. A *Serous Diarrhea* arises most frequently from the Juice of the Pancreas Serous, and also such-like Spittle, seldom from watry and serous Humors, di-

stilling and swallow'd down from the *Brain* toward the *Jaws*.

17. *The Juice of the Pancreas, and Spittle*, become more watry and mild, according to the plenty of watry Drink taken in; after that moist Air coming, or the Excretion of Urine, or a wonted Sweat failing.

18. The same are *serous* and *sharp*, or *saltish*, by the use of both watry and salted Food, whereby they are not only over-thin and fluid, but over-sharp also, and *Saltish*.

19. *Pblegm* both *viscons* and *watry*, or *Serous*, is separated beside Nature in the *Brain*, or its *Glandules*, perhaps alwayes the *Heat* of the *Universal Body*, and *Head* especially preceeding whencesoever, and a *Pblegmatic Humor* carri'd plentifully to the *Brain*, being then in the *Body* or *Blood*, and presently the coldness of Air following, and piercing through the most open Pores with a *subtile Air*, coagulating the *aforesaid Humor* in divers parts of the *Brain*; whence whether an *Obstruction* happen in the *Lymphatic Vessels*, and the breaking thereof after too much distention, and hence an *Effusion* of what is contain'd; or a *Pblegmatic Humor* depart otherwise from the *Blood*, at least it uses to run under the name of a *Catarrh*, sometimes in the *Nostrils*, other-times on the *Jaws*,, and thence either into the *rough Arterie*, or into the *Gullet*; by which being carri'd into the *Ventricle* and *Guts*, it seems to afford Matter to this *Serous Diarrhea*.

20. A fat and oily, or unctuous Loosness almost follows the use or abuse of too fat Food.

21. A bloody Flux always rises from some Vessel of a Vein or Arterie in the small or thick Gut, seldom in the Stomach, or any other part unnaturally burst, cut,

or

or open'd any other way, and sending the contain'd Blood to the Guts.

22. We intend to speak in its proper place of the manifold opening of any Vessels, their various Causes, and divers Cure.

23. The Flux of the Hemorrhoids, not very familiar to certain Sick People, is either Critical, which uses to ease them; or Symptomatical, much weakening the Sick.

24. The Flux of the Liver, if ever seen by others, not by me, as I know, is to be deduc'd from much serous Matter mixt with the Blood, and also relaxing the Vessels.

25. The Blood becomes serous by too much use of watry Drink, Water, Beer, &c. and also of Spirit of Wine it self, whereby at length the firmuets of all Parts is weaken'd, and the Tone almost gone.

25. Seeing that both Matter and Slime rises from the corruption of the Blood, and that after an Inflammation in an Aposteme, or an Ulcer either deep or superficialie, or an Exulceration whence-soever arising; such a thing ought to have place, as often as the Dejection is observ'd Purulent or Slimy. But of these Diseases we intend to speak anon.

27. A Tenesmus consisting of a Mucous and Purulent Dejection, owns a Phlegmatic, viscous, and also a sharp acid Humor adjoining about the Sige, and there stirring up a troublesom Ulcer by fretting.

28. A Choleric Diarrhea may be Cur'd; 1. By correcting the saltish Acrimonic of Choler by Medicines, in Chap. 1. Sect. 11, &c. And they are to be selected, (because of its fluidity also increas'd) which have a mild Tartness, Quinces, Apples or Pears, according to the Palate of the Sick, prepar'd either in the form of a Syrup, or Miva, or Preserve, or

any other form. To these belong *Pomegranats, Barberries, unripe Grapes, or Verjuice, Plantane, Purslane, &c.* Boles and fat *Earths*, and all that are *seal'd*.

29. 2. By correcting the *over-watriness* of the *Pblegm* of *Spittle*, or the *Juice* of the *Pancreas*, both by solid and no-wise watry Food; and also by *Medicins* imbibing or evacuating the same.

30. *Chalk, Harts-Horn*, or any other *burnt Bone*, and reduc'd to Powder by it self, before many other things do imbibe watry moisture, us'd in a small quantity, &c.

31. *Hydragogues* empty this watry Moisture by Stool; and *Sudorifics* and *Diuretics* by Sweat or Urine, among which I much commend *Decoctions* made of the *Roots* of *China, Sarsaparilla, Butterbur, Contrayerva, &c.* the *Woods* *Gujacum, Sassafras, Juniper, Oak, Box, &c.*

32. *Toasted Rhubarb* satisfies to many Indications, and given to \mathfrak{z} i. or there-about, seeing that it doth not only evacuate *Water* here abounding together with *Choler*, but soon corrects the over-loose Body by its mild tartness.

33. After *Choler* is corrected, and also too much abounding is gently purg'd together with watry *Serous Liquor*, *Diascordium, Treacle, Confection of Jacinth*, and such-like may be us'd, whereby *Choler* may be reduc'd to its natural Temper, and the Guts weakened by frequent Dejection, may be recreated and strengthened.

34. For the sake of Students we will add these following Forms.

℞. *Rhubarb* *tosted* \mathfrak{z} ii. *Nutmegs* \mathfrak{z} s. M. for a Powder,

Which

Which the Sick may take in the morning in a spoonful of Wine or Broth.

35. When the Blood also abounds with much *Serous Liquor*.

R. *Rhubarb* tosted, *Jalapp-Root*, of each \mathfrak{z} i. *acute Cinamon* 6 Gr. M. for a Powder, or with as much *Conserve of Damask-Roses* as suffices. Make it a Bole to be taken in the Morning.

36. After such an Evacuation, let the Sick use about the Evening by times, one spoonful of this following Mixture, which

R. *Diascordium* \mathfrak{z} i. *℞. Confection of Jacinth* \mathfrak{z} i. *Syr. of Myrtle* \mathfrak{z} i. *Cinamon-Water* \mathfrak{z} ℞. *Plantane-Water* \mathfrak{z} ii. *℞. M.*

37. As often as all the Blood abounds with *serous Liquor*, than will the following, or such a-like Decoction be convenient to educe and diminish it by Urine or Sweat.

R. *Smallage*, *Butter-bnr Root*, of each \mathfrak{z} i. the shavings of *Juniper-Wood*, *Millet-Seeds*, of each \mathfrak{z} iii. Boil them according to Art in clean Water, in \mathfrak{z} xxx. Of what is strain'd, dissolve *Syr.* of the five Opening Roots \mathfrak{z} iv. *Sp. of Salt dulcifi'd* \mathfrak{z} i. M.

Let the Sick take a Draught twice or thrice a day, if he loath it not, warm'd, and especially betimes in the Morning in Bed; whence a Sweat will easilier come forth; but if not, Urine will come more plentiful, and so the *serous Liquor* of Blood will be consum'd by little and little, and all the *Humors* will be more pure and better.

38. In the Cure of a *Phlegmatic Diarrhea*, the vicious Diet is not only to be chang'd into laudable and somewhat contrary; but also over-viscous *Phlegm* is to be corrected by Medicines propos'd in Chap. 2. And after

after that by *Sweats* and *Diuretics* before-mention'd and describ'd, or such-like, to be *expell'd* out by the *Pores of the Skin or the Bladder*, and to be turn'd in part from the *Stomach and Guts*.

39. A *serous Diarrhea* may be Cur'd, by abstaining from farther drinking too much of watry *Liquors*; and by taking those things which imbibe *Waters*, *Harts-Horn burnt*, *Chalk*, &c. or by *Sweats*, or *Urine* expel the afore said things.

40. If nothing else hinder, an *Hydragogue* may sometimes be taken to empty a great part of *Serous Liquor* redounding by *Stool*.

41. As often as in a *serous Diarrhea*, whencesoever arising, the *serous Liquor* is *Salt* and fretting, so often it is to be corrected with *Pills of Hounds-Tongue*, of *Styrax*, or such-like.

42. As often as a *serous Diarrhea* arises from a preceding stoppage in the *Head*, so often *Medicins* must be us'd to the *Brain*, by strengthening and restoring the *Glandules* or *Kernels* always then ill-affected to their wonted intireness; which is soon, safely, and not unpleasantly done by fuming only of *Amber*, often and by degrees receiv'd in at open *Mouth* and the *Nostrils*; by which often at once I have cur'd in the beginning such a *Stoppage* grievous enough, that it continu'd not above a *Night*. More things may be added to this *Amber*, if compositions please better, to wit, to make a shew, *Mastic*, *Frankincense*, *Belzoin*, *Styrax*, &c. and thence a *Powder* may be prepar'd for fuming, and by degrees strow'd upon *Live-Coals*, and be receiv'd in at the *Mouth* and *Nostrils*, as was already said, the *Head* being cover'd with a *Cloak*, or any other large *Covering*, that the less of its *Smoak* should be wasted.

43. An *oily* and *fat Loosness* will cease of its own accord.

accord by degrees, if the use of Fat things whatsoever be abstain'd from : although those things also may be us'd, which drink up or correct over-much Fatness, *Harts-Horn burnt, Chalk, Coral, the Ashes of Carduus Benedictus, of Wormwood, and Broom,* or their *Lye* made with Wine, or the *fixed Salt* boil'd and made out of those Ashes.

44. A bloody Looseness may be Cur'd, if it arises from a *sharp Humor* corroding the Vessels, by *correcting* and tempering the *sharp Humor*, and *consolidating the Vessel fretted*.

45. Those things that correct a *sharp Humor*, and perhaps always *Acid*, are to be sought in *Chap. 2.* but the *Mixture* which *consolidates* Corroded Vessels, and wonderfully *binds* all *efflux of Blood*, is in *Chap. 9. Sect. 20.* which I having often experienc'd with good success, do commend to Younger Physicians.

46. The *Flux of the Hemorrhoids*, as often as it is with ease to the Sick, and is *Critical*, is so long to be observ'd and not stopt ; But where it is too much, and *Symptomatical*, and weakens the Sick, is then to be hindred slowly by the former *Mixture*, or such another Medicin.

47. If much *serous* Liquor can so dilute the *Blood*, as to carry some part of it together to the *Guts*, out of the Vessels *relax'd* by it, and produce a *Flux* like the *washing of Flesh*, commonly call'd *that of the Liver*, it may be Cur'd both by *Sudorifics* and *Diuretics*, driving forward the *serous* Liquor out of the Body another way ; and also by *strengthening tart things* that repair the *Hurt* of the Loosned Vessels ; of which we have spoken in this Chapter already : And before all things, *beware* for the future from too much drinking of *watry Drinks*.

48. The

48. The Tone and natural strength of the Parts being defective, by the abuse of Spirit of Wine, is hardly Restor'd, and not easily, unless by somewhat tart spiritous Liquors us'd with an exact Diet, scarcely to be expected again of Drunkards, such as (among Natural Things) are strong Wines, and somewhat tart, together with a grateful blackness; (among Artificial Things) more prepar'd of Spiritous Wine and Quinces, or Pomegranats, or Myrtle-Berries, or such-like others.

49. A purulent or slimy Loosness may be Cur'd, by curing the Aposteme or Ulcer whatsoever, where-ever it be, if it cause it.

50. Beside those things which we intend hereafter to speak in general of an Inflammation, and Aposteme following it, and an Ulcer, we intend to write a few things here, which conduce in special against the Diseases in the Guts.

51. When therefore there is an Ulcer in the Thick Guts, and Clysters can come to the place Diseased, then I much commend this following, which should be kept very long in the Body, and a new one, if the Matter require, should be often injected.

Rx. New Cows Milk, and if you please, first steal'd
 $\bar{\zeta}$ viii. Venice-Turpentine, dissolv'd in the Yolk
 of an Egg $\bar{\zeta}$ ss. Honey of Roses $\bar{\zeta}$ i. M. for a
 Clyster.

By such a Clyster given, and only one, about the beginning, and so betimes, I have often Cur'd a Dysenterie join'd with a voiding of Matter.

52. When the Ulcer is in the Small Guts, this following Vulnerary Decoction will conduce, if some ounces be often taken in a day.

Rx. Sarracens Comfrey-Root $\bar{\zeta}$ ss. the Leaves of
 Pyrole, Ladies Mantle, of each M. i. Ground-
 Irie

Ivie M. ii. *Male Sanicle*, *Tops of St. John's Wort*, of each M. ℥. *shavings of Harts-Horn* ʒ iii. Boil them according to Art in *Smiths-water*, in ʒ xxv. Of what is strain'd, dissolve the *Syr. of Marsh-Mallows*, of *Oak of Jerusalem*, of each ʒ i. ℥. *Tincture of Cinamon* extracted with *Spirit of Wine* rectif'd ʒ ℥. M.

53. The following Mixture will be useful in the same Case, often taken by Spoonfuls.

R. *Plantane-Water* ʒ ii. *Cinamon-Water*, *Distill'd Vinegar*, of each ʒ ℥. *Diafcoridium* ʒ ii. *Crabs-Eyes* powder'd ʒ ℥. *Diaphoretic Antimonie* ʒ i. *Syr. of Red-Roses* ʒ i. M.

54. They who like a Conserve better, may use this, or one like it, which

R. *Conserve of Red-Roses* ʒ ii. *Diafcoridium* ʒ ii. *Confection of Jacinth* ʒ i. *Harts-Horn* burnt and powder'd ʒ ℥. *Syr. of Myrtle*, what suffices, M. for a Conserve.

Let the Sick take the quantity of a Nutmeg of this Conserve often in a day.

55. The Balsam of Sulphur, prepar'd either with Oil of Anise which is more grateful, or with Oil of Amber which is more potent, taken often in a day to two or three drops, with the aforesaid Mixture or Decoction, will serve perhaps before all other things, as well to cleanse the Ulcer, as to consolidate it.

56. In a Dysenterie, where there is much plenty of sharp Humors in the Body; in the beginning *Rhubarb* tosted, and a Grain of *Laudanum* given will conduce; and if need require iterate it. Also *Treacle*, or *Diafcoridium* may be added, when any abhor by prejudice, or fear their Sick in using *Laudanum*, so often a commended Medicin by us for its praise-worthy Effects.

57. Nor

57. Nor will it be unseasonable to take the *Clyster* prepar'd with *Cows Milk*, and other things the same day wherein *Rhubarb* was taken, by the help whereof both the *Ulcer* will be cleans'd, and *Gripes* asswag'd, and the consolidation of the part *Ulcerated* promoted.

58. A *Tenesmus* in the Fundament may be Cur'd, especially by applying, and injecting into the Fundament Medicines which Correct both the *sourish-sharp* and *viscous Humor*, and thereby cleansing the *Ulcer*, and lastly consolidating it: To which end there is scarce a Remedy equal to *Balsam of Sulphur*, if rightly prepar'd with the *oily Spirit of Venice Turpentine*, or the *Oil of Amber*, or *Anise*, and appli'd to the Fundament by it self alone, or mixt with other things.

CHAP. XIV.

Of various Pains of the Guts.

1. **A**Lthough we intend to Treat of *Pains* in general in the *Second Book* among the *Depravations of Animal Functions*, yet could we not omit the particular mentioning of them here, because the *Guts* before all the other containing parts of Man's Body are usually afflicted, not only with the *most banous*, but perhaps with *Pains* of all *Kinds*, so that no other-where can all their *Kinds* be more opportunely observ'd, and therefore explain'd than here.

2. All these *Pains* are Distinguish'd. 1. By the *Guts* affected, whilst one while the *Small*, other-whiles the *Thick Guts* are griev'd. 2. By the *Manner* whereby various *Pains* afflict and affect the Sick; for sometimes it comes with the *Sense of Heat*, other-
times

times of *Coldness*; again, the Pains are *fixt* in the same place, and, as it were, piercing through the part affected, anon they *wander*, and with a kind of *Tearing*, prick between whiles for the most part, whether they then affect *the same part* over and over, or go to *others*; again they distend and expand the *Guts alone*, or the *Abdomen also*; at other-times they vex the Sick with the *molesting Sense of Rending, Contorting, Contusion, Heaviness, Pulsation*, or in some other manner.

3. As often as the *upper part of the Small Gut* nearest the Stomach laid over *the right Region of the Loins*, and under the *Mesenterie* is Pain'd, it's nam'd a *Pain in the Loins* from the place affected.

4. The Sick use commonly to endure all kinds of *Pains*, one while *burning* with a great *Heat*, another time *Chill* with a grievous *Coldness*; again *fixt*, and as it were, *boring* the *Loins*, or moreover *pricking* with *wandering Thrusts* repeting; anon *distending* or *beating* the *Loins*, or only *pressing* them with the *Sense of Weight*, or *Burning, Corroding, Tearing*, or troublesome either with a *continual* or *interrupted Pulsation*, and afterward again returning, or wonderfully *writhing* and *contorting* any other way, scarce to be explain'd by the Sick, or by Physicians.

5. The *part of the small Gut* next to this, and in the *left Hypochondrium*, rising out and up more freely from the *Loins* and *Mesenterie*, is afflicted often with *Rendings* and *Distensions*, with a *notable* and sometimes *permanent hardness*; although then commonly, though wrongfully, that *Evil* and *Pain* is attributed to the *Spleen*; and the same Opinion is even now held by certain Physicians blinded with inveterate or malign prejudice obstinately without any solid Reason, against daily and manifest Experience, taken from
the

the manifold dissections of divers Bodies. I desire not in any wise to note the Physicians that judg and say the same in Conscience, though never so erring, but the obstinate and malicious only.

6. If the name of that *Pain* should be impos'd upon me by any void of prejudice, I would call it *Hypochondriacal* from the place affected, adding the name of the urging kind, and furnaming it either *Tearing* or *Distending*, and so forward.

7. The *Pain* which siezes on the rest of the *small Gut*, is wont to be nam'd *Iliac* from the Gut call'd *Ileum*, which is also observ'd various.

8. In the latter part of the *Thick Gut*, known by the name of the *Right Gut*, there is very often stirr'd up an *hot and pulsing Pain*, and also sometimes tearing in the *blind Hemorrhoids*, so call'd, inflam'd; as in the *Tenesmus* a *corroding pain* perpetually provoking to *Siege*; of which in the former Chapter: sometimes very troublefom *gnawing*, with more or less *itching*.

9. In all the other part of the *Thick Gut*, call'd *Colon*, whatsoever *Pain* is rais'd, it's call'd the *Colic*.

10. The *Iliac Passion* and the *Colic* are distinguisht from one another, chiefly by the *situation* of either Gut.

11. For the *Gut Colon*, beginning from the right Groin, rises toward the Liver about the right Kidney, and is thence for the most part carri'd cross-ways to the left *Hypochondrium*, under the Gristles of the short Ribs, a great part whereof it possesses, and presently being writh'd to the left Kindney, and the left Groin, where being writh'd in the mannner of an *S*, it is roll'd down to the *Os Sacrum*, that it may go and end in the *Right Gut*: Whence the *Pain*
rising

rising in the circuit and circumference of the Belly newly describ'd, is truly to be call'd Colical; although some only vouchsafe it the name, which vexes and molests the upper and fore-part of the Belly like a Girdle, being ignorant and unmindful, how often the Colon is roll'd to the Navil, and sometimes to the Bladder, with a remarkable winding through the middle of the Belly

12. But the *small Gut* gives back more and more from the Centre of the *Mesenterie* (under which we said it lay hid in the Region of the Loins) where appearing again in the left *Hypochondre*, although join'd unto the *Mesenterie*, is contorted up and down about the Region of the Navel; and so being for the most part gathered together in the middle of the Belly, sustains there the *Illie Passion* very variously.

13. The Guts are affected in all Pains, either in their *Tunics*, or *Internal Membrans*, according to their Cavity, or in the *External Membrans*, according to their Superficies.

14. The *Internal Causes of Internal Pains* afflicting any Guts, are to be drawn from what is contain'd in them, one while remaining as yet in their Form yet consistent, other-times chang'd first into *Vapors* and *Wind*.

15. The *External and also Immediate or next Causes of Pains* arising to the Guts, as a *Needle*, *Sword*, &c. we do not here mind, but only those which being admitted into the Body, may and ought to be esteem'd *Internal*, in as much as they mix themselves with things contain'd therein, and together with them for the most part being more or less corrupt, breed *Pains* and other things.

16. That we may assign to every kind their *Causes of Pains*, We judg, 1. that a *Burning Pain* for the
G most

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most part rises from *Choler* too fat, powerfully and vitiously raising an *Effervescency* with the *Juice of the Pancreas* too Acid; as it is known that Spirit of Vitriol pour'd to Oil of Turpentine, raises an *Effervescency* join'd with a notable Heat and Burning.

17. Sometimes we judg this same *burning Pain* is produc'd by the *Blood*, either *standing still* in the Capillary Vessels of the Guts, or by the same burst after a great distension, *Blood being Effus'd*, and breeding an *Inflammation*, there happening a manifest *pulsation* about the part affected; by reason of which it is distinguish'd from the former kind.

18. 2. We take it that a *Chill Pain*, troublesome with grievous Coldness, takes its Original from the *Juice of the Pancreas* very acid and sharp, raising an *Effervescency* with *Choler* less fat or little, or also overwhelmed with *Pblegmatic Humors*, as we observe that Spirit of Vitriol mixt with any *Volatil Salt*, but not oily, raises an *Effervescency* coupled with a notable chilness and coldness only sensible.

19. That the Operation of the Acid Spirit in producing Cold, is much promoted by *Pblegm*, Experience the Mistress both of Learned and Unskillful People teacheth.

20. Heat depending of the aforesaid vitious *Effervescency*, is chiefly and commonly only felt in the *Region of the Loins*, where there is a conflux of *Choler*, and the *Juice of the Pancreas*; and coldness commonly urgeth only in a place remote from thence, chiefly; to wit, when the upper part of the Gut is stop't with much viscous *Pblegm*; which defends the part that it touches, against the feeling of troublesome coldness, but doth not break or hinder the action of the *Juice of the Pancreas* of it self breeding coldness; although it enervats and blunts the oiliness and

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and Acrimonic of Choler, to which Heat is indebted as to its Primary Cause, as often as this Phlegm meets Choler in its Out-let plentifully or viscouſly.

21. As therefore the ſmall Gut is more or leſs ſtoped with plentiful or viſcous Phlegm, ſo Heat or Cold that riſes from their vitious Efferveſcency is felt in a place more remote, or nearer the Conflux of the aforeſaid Humors, Choler, and the Juice of the *Pancreas*.

22. 3. *The Pain that does, as it were, Bore and is Fixt*, I aſcribe to the *Juice of the Pancreas*, mixt with much ſharp and viſcous Phlegm, then known by the name of *Vitreous or Glaſſie Phlegm*: And farther, I aſſign its *Boring* to an *Acid Acrimony*, and its *Fixtneſs* to viſcouſneſs accompanying.

23. 4. Where the *Juice of the Pancreas* hath not only a very ſharp Acidity, but alſo Harſhneſs, then there is a wonderful ſenſe of *Contortion* in the part affected, ſuch as often urges and writhes in the Colic.

24. 5. *A Pain* with the ſenſe of *Weight*, is wont to be rais'd by plentiful and viſcous Phlegm peccant before other Humors.

25. 6. *From the ſame Phlegm, viſcous and rareſi'd* into *Wind*, diſtending the Guts alone or alſo the Belly, ariſes a *Diſtending Pain*.

26. From this ſame *Wind* ariſes a *Tympanie* one while remaining and ſhut up in the Cavity of the Guts, at another time piercing out of them into the Cavity of the Belly, and there expanding the *Lancet Rim of the Belly*.

27. *The material cauſe of Wind* is viſcous Phlegm, but the *Efficient Choler* peccant both in its ſaltish *Acrimonic*, and its volatil oilineſs: which any *Aromatic Oils* do prove prepar'd eſpecially of Seeds; a few

drops thereof being taken, resolves viscous Phlegm that is in the Stomach or Guts into Wind, and farther discusses the same.

28. 7. *The Sharp Vapors* stirr'd up by the over-Acid Juice of the *Pancreas* over-ruling in its vicious Effervescency with *Choler* pricking the Guts here and there, do produce *Gripping and Wandring Pains* therein.

29. 8. From *Choler* peccant in its *saltish Acrimonia*, and constituting with the *Juice of the Pancreas* a *Salt corroding Humor*, I dare say, the *Pain* obscurely burning and corroding is bred, which a *Snuffling in the Head* confirms, wherein a slowly salt Humor distilling from the Brain by the *Nostrils*, uses to make the like corroding Pain.

30. From the same *Choler too sharp*, constituting a *Salt Humor*, and at length carri'd down to the *Fundament*, an *Itching Pain* is rais'd, very troublesome to many sick People; such as *Worms* there, call'd *Ascarides*, sometimes sticking in the *Seige* do produce.

31. 9. A *Beating Pain* seems to me to arise from much *Phlegm* join'd to a little *Acid Juice*.

32. 10. A *Pain Tearing and Corroding* the affected Part without Heat, is caus'd by a *more pure Sour Juice*, neither temper'd nor broken by *Choler* or *Phlegm*.

33. As the now mention'd Causes are more pure and solitary, or join'd to others variously, and more or less temper'd by them, so they breed some diversity in the above-said Pains, scarce explainable with words.

34. 1. A burning Pain may be Cur'd, by tempering too fat *Choler* with *Acids*, and chiefly *Spirit of Nitre*; adding also *Warry* and *Spiritous*, and moreover somewhat *Oily Things*, especially *Opiats*, using them

them in a various Form. For example let these following Forms be.

Rx. Succorie, Sorrel-water, of each ζ iii. Syr. of Diacodium, or White-Poppies ζ i. Sp. of Nitre 8 drops. M.

Let the Sick take this Mixture at three or four times after some hours space.

35. If any like an Emulsion better, let them use the following or one like it.

Rx. Barley cleans'd and boil'd till it crack ζ i. li. White Poppy-Seeds ζ iii. Cucumer, Melon-Seeds, of each ζ ii. With the Decoction of the same Barley. Make an Emulsion of ζ xv. adding Julep or Roses ζ i. M.

You may add ζ li. of *Lapis Prunella*; and let the Sick use two or three ounces of this by spaces.

36. Where Pain is more urgent, or yields not to these mild ones, prepare the following Mixture.

Rx. Fumitorie-Water ζ ii. Fenel or Cinamon-Water ζ li. distill'd Vinegar ζ vi. Sp. of Nitre 6 drops. Laudanum 3 Gr. simple Syr. of Violets, ζ i. li. M.

Let the Sick often take a Spoonful of this Mixture, till both the Heat and Pain be diminish'd, or Sleep by degrees come on.

37. If Choler be also observ'd to be peccant in Plenty, nothing hinders but that it may be educ'd with a mild Purge, to which end the following Conserve very grateful, and also altering may avail.

Rx. Pulp of Tamarinds ζ ii. Conserve of pale Roses ζ x. Eleazarie of the Juice of Rses ζ i. Salt of Tactar vitriolated ζ i. M. for a Conserve.

Let the Sick take the quantity of a Nutmeg, or some more, for the diverse constitution of the Sick, either at bed-time, an hour after a moderate Supper,

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or in the morning fasting. It may also be dissolv'd in a convenient Liquor, and us'd in the form of a Draught. Our *Cholagogue Electuarie* also describ'd in Chap. 2. Sect. 48. as is there taught, may be us'd.

38. We intend largely to prosecute the *Generation and Cure of an Inflammation* in Chap. 40.

39. 2. A *Fain Chill* and urging with troublefom coldness, may be cur'd, by tempering the *over-sharp Acidity of the Juice of the Pancreas*, with a *Lixivial Salt* as well fixt as volatil, and so with a *volatil Spirit* it self, as also *oily and watry Liquors*: Which if more were mixt, they would perform more.

40. Therefore any *Aromatical Spirit of Wine* may conduce, as having a volatil and oily Salt; moreover any *Treacle-water* prepar'd with Spirit of Wine, as receiving much power from *Opium* of tempering the vicious Juice. Hither may *Coral, Pearl, Crabs-Eyes, Diaphoretic Antimonie, &c.* be reduc'd. All which will perform more, if the Body be compos'd to sweat; and more yet, if an actual Sweat be mildly driven forward.

41. To this end the following Form may be prescrib'd.

R. Fenel, simple Treacle-water, of each $\frac{3}{4}$ lb. Salt of Wormwood $\frac{1}{2}$ i. Crabs-Eyes $\frac{1}{2}$ lb. Syr. of Carduus Benedictus $\frac{3}{4}$ lb. M. for a Draught, to be taken at once.

To which, if pain urge much, may be added Laudanum i. Gr. and when it is taken, let the Sick either sit by the Fire, or let him be fitly covered in Bed waiting for a Sweat.

42. If to Sweat be troublefom, let him often take a spoonful of the following Mixture, till as well Pain as Coldness do remit or cease.

R. Mint-

R. *Mint-water* ℥ ii. *Aqua Vita* of *Matthiolum*, or
Tincture of Cinamon ℥ ss. *Laudanum* ii. Gr.
Oil of Cloves 3 drops. *Syr. of the five Roots*
 ℥ i. M.

43. Among emptying Medicins, none are proper here while Pain molests, unless *Sudorifics* already commended, or *Diuretics*; and to abstain from *Vemics*, unless vomiting come of its own accord and easie enough, and then always add these things which temper sowness, as fat Broths and such-like. Neither are *Purgers* to be given, unless first the Acid Humor be temper'd, or *Choler* and much *Phlegm* also concur, but not very viscous.

44. The *Medicins* which then conduce, are partly noted above, *Chap. 7. Sect. 54, 55.*

45. 3. A Boaring and Fixt Pain may be Cur'd by correcting and tempering both the Acid Acrimonic of the Juice of the *Pancreas*, and also the viscosity of *Phlegm* accompanying; which is chiefly performed by *Aromatic Gums*, *Galbanum*, *Sagapen*, *Bdellium*, *Ammoniac*, *Opoponax*, *Mastic*, *Myrrb*, &c. as also by any *volatil Salt*, and chiefly oily. Yea, how much the more any thing abounds with *Volatil Salt*, Oily, so much the more potently and effectually will it correct glassy *Phlegm*, so call'd, the worst Humor. Whence the *Oil of Harts-Horn* is no less potent than ungrateful Remedy in this Disease.

46. Also the *Balsam of Sulphur* made with *Oil of Anise*, *Amber*, or *Juniper*, or any other *Aromatic Oil*, may be convenient in vanquishing this rebellious and redoubl'd Humor.

47. In finishing this Work also, any *Aromatic Sp. of Wine*, more or less compounded, adding, if you please, an *Aromatic Oil*, and sometimes *Opium* it self, or *Laudanum*, and others will conduce.

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48. The following *Mixture* taken often by spoonfuls will much profit.

R. Mint, Fenel water, of each \mathfrak{z} j. Scurvygrass-Water. *Aqua Vite* of Matthiola, or any Aromatic Sp. of each \mathfrak{z} ss. distill'd Oil of Mace 4 drops, Laudanum 3 Gr. Syr. of Fenel \mathfrak{z} ss. M.

49. If the form of a *Decoction* please any better, the following may be prepar'd, and three or more ounces taken sometimes in a day.

R. The Bark of Lovage Root \mathfrak{z} ii. of the Wood Guaiacum \mathfrak{z} ss. The shavings of the same Wood \mathfrak{z} iii. of Sassafras \mathfrak{z} i. Bay-berries \mathfrak{z} ss. the Seeds of Mountaine Siler, of sweet Fenel, of each \mathfrak{z} iii. Boil them according to Art in clean Water, in \mathfrak{z} xl. Of what is strain'd, dissolve Syr. of Bizantium \mathfrak{z} iv. Sp. of Wine redistill'd ; i. M.

If any will have this *Decoction* also to Purge mildly the Humor first corrected in part, boil in it the Pulp of *Colocythis* \mathfrak{z} i.

50. These following Pills will be useful to correct more, and mildly educe the same glassy Pblegm in part corrected.

R. Gum Galbanum prepar'd with Vinegar of Squills \mathfrak{z} ii. Vitriol of Mars calcin'd white, slowly in a gentle Fire, select Mastic, of each \mathfrak{z} i. best Castor, Red Myrrh, of each 15 Gr. Oriental Saffron \mathfrak{z} ss. the Troches Albandel \mathfrak{z} i. Resin of Jalap, of Scammony, of each \mathfrak{z} i. Oil of the Rind of Citron 6 drops. M. to be L. Pills, to be guided or praed over with Powder of Licorish.

Let the Sick take three or more of these Pills after Supper at Bed-time, or five, or so many as may be convenient in the Morning Fasting, that the vitious Humors may be expell'd slowly and kindly.

51. 4. Pain join'd with the sense of Contorsion, and

and rising from the tartness of the Juice of the Pancreas coupled together with its Acidity, may be cur'd by often taking the Sp. of Salt Armoniac, as an approv'd Remedy by frequent use in correcting Sourness to 3, 4. or more drops, in Wine, or rather in a convenient Mixture, often prescrib'd in this Book.

52. Here also the Tincture of Castor may conduce, in like manner using a few drops of it in Wine, or rather to be added to a Mixture, and so take it by Spoonfuls: For Example;

R. Pennyroyal-Water ζ ii. Fenel Water ζ i. Tincture of Castor ζ iii. Laudanum 2 Gr. Syr. of Mint ζ vi. M.

53. 5. Troublefom Pain with a sense of Weight rising from plentiful and viscus Pblegm, may be Cur'd by Medicins both correcting and cutting it, and gradually emptying it, inention'd in Chap. 2. Sect. 28, &c.

54. 6. A Distending Pain, stirr'd up by Wind, may be cur'd, both by correcting viscus Pblegm, and over-sharp Choler; and also mildly and successively by emptying both peccant in plenty; and also by discussing Wind, or hindring and stopping their Encrease.

55. Beside those things which are all over in this and other former Chapters mention'd to correct and educe both Humors peccant, here we will subjoin certain external things commodiously to be us'd in this Disease.

56. Therefore to dissolve viscus Pblegm, and to disperse Wind then arising, the Ointment Martiatum, and that compounded of Marsh-mallows, &c. adding Oil of Chamemile, white-Lilies, Bays, &c. will nicely conduce, if the Belly, and especially its upper part be anointed therewith. For Example;

R. The Compound Unguent of Marsh-mallows, or
Mar-

90 *Of various Pains of the Guts.*

*Martiatum, Oil of White-Lilies, of each ʒ ss.
Oil of Bricks ʒ i. M. for an Ointment.*

If all the Belly of Infants were anointed for a time when they go to bed, it is wonderful how happily Phlegm contain'd in their Belly will be dissolv'd, and Wind bred from thence, distending all the Belly will be discuss'd, and the leanness of the Universal Body, as also for the most part too great looseness following, may by little and little be Cur'd, as I have experienc'd it very many times.

57. Twenty years since I prescrib'd the following *Unguent* and *Plaster* to be appli'd to the upper Region of the Belly of a Man at *Amsterdam* (about fifty years old that had a great, unequal and hard Tumor in the left *Hypochondrium*, the bigness of an Arm, reaching forward toward the right side according to the most frequent situation of the *Colon*, ascrib'd to the Spleen by other Physicians, together with other Symptoms of the *Hypochondriac* Disease) beside Pills made of Gums, often describ'd in this Book: By the help whereof the same Tumor was softned, and the most part of it taken away.

R. The Compound Unguent of Marsh-mallows, or Martiatum, Oil of Capers, of each ʒ i. Oil of Bricks ʒ ii. M.

58. The Plaster which the same Man us'd successfully, because I have found it often effectual in discussing Wind and Tumors thence arising; I here set it down for younger Physicians sake.

The Plaster of Sylvius discussing Wind.

R. Gum Galbanum, Bdellium, Ammoniac, of each ʒ ss. Male-Frankincense, Red-Myrrh, of each ʒ ii. Opium of Thebes ʒ i. Dissolve them in Vinegar of Squills;

Squills; and when they are again thickned, add *Yellow-Wax*, *Colophonie*, of each ℥ iii. *Natural Balsam*, *Oil of Bricks*, of each ℥ i. *Oil of Earth* ℥ ℔. *Distill'd Oil of Carnas* ℥ ℔. *Venice-Turpentine*, what suffices. *M.* According to Art make it a *Plaster*.

This Plaster is to be spread upon soft Leather, first form'd according to the greatness and shape of the Tumor to be observ'd, a Paper being laid upon it and cut.

59. *Volatil oily Salts* do potently and also mildly discuss *Wind* before many others. In the Use whereof I have observ'd something worth note, to wit, that *Wind* is produc'd by them, as often as viscous *Phlegm* sticks in the *Ventricle* or *Guts*, but such *Wind* as is soon by their force dissipated or breaking forth, or otherwise ceasing; whence we argue, that the *Wind* rising from vitious *Humors* in the *Body*, more or less viscous may by degrees be discuss and abolisht by the afore-said *Salts*, which *Experience* also confirms.

60. In the Use of which *Oily Salts*, this is also notable, that viscous *Phlegm* is gradually cut and amended by them; so that whatsoever for the most part, both *Wind*, and the *Matter* thereof requir'd to their Cure, these *Oily Salts* can perform it all.

61. To correct the *Acrimonie* of *Choler* always more or less peccant, the *Sp. of Nitre* conduceth before all other things, which also discusses *Wind*, at least makes it cease, hindring its farther rise: Of which, and other things belonging hither, we have already spoken in *Chap. 9. Sect. 26, &c.*

62. 7. A *Piercing and Wandring Pain* rising from acid and sharp *Vapors*, may be Cur'd, by tempering that sharp *Acidity* with *Aromatic Medicins*, that have a *volatil oily Salt*, and especially with *Opiats* also added,

ded, often here and there describ'd in this Book; and by expelling mildly out the Humors and Vapors peccant by *Sudorifics*, which also temper the same; but seldom using *Purges*, unless the vicious Humors be first corrected and temper'd. Of all which we have often treated in this Book.

63. 8. A *Corroding & Burning Pain* caus'd by *sharp Choler*, may be Cur'd with Medicins *sourly-tart* or *harsh*, *Verjuice*, *Pomegranate Juice*, &c. and also with several *oily things*, *Emulsions* especially made of *Barly*, *Sweet-Almonds*, *White Poppy Seeds*, and such like; also with *viscous Food*, as *Sea-fish*, and the *Extreme parts* of any *living Creature*, out of which much *Jelie* may be drawn, the *Feet*, *Heads*, &c.

64. The same *Choler*, when it also is peccant in *too much quantity*, is to be diminish'd and carri'd out by mild and somewhat *sour Cholagogues*, especially *Tamarinds*, *Cassia*, and such like.

65. The *Ascarides* causing a *corroding Pain* in the *Fundament*, are thence to be taken out alive or dead, and their farther encrease to be hinder'd.

66. *Bitter things* join'd to *sweet things* kill these *Worms*. *Suppositories* of *Aloes*, *Wormwood*, &c. made with *Hony* and put up, which promote both their removal and exclusion.

67. The Medicins hinder the rise of these *Worms*, that both correct and expel any *vicious* and especially *Phlegmatic Humors* in the *Body* often mention'd.)

68. 9. A *Contusing Pain* arising from much *Phlegm* and little *Acidness*, may be Cur'd, by diminishing *Phlegm*, by *Phlegmagogues* often recited; and tempering *sourness* by *spiritous*, *oily*, and *saltish things* both *fixt* and *volatil*, often noted.

69. 10. A *Rending and Corroding Pain*, without heat,

heat, not to be ascrib'd to a *pure Acidity*, not diminish'd by other things, *may be cur'd* by Medicines that potently *concentrate* and *mitigate sourness*; among which the first is *Opium*. Hither may all *Aromatics* be reduc'd, whether Spiritous or Oily often commended.

70. And now it will not be difficult, from what we have said about the Rise and Cure of several Pains, to find the true Cause and Manner of Curing of others, as yet more obscure or complicated, and perhaps not explain'd here.

CHAP. XV.

Of the Vomiting of what is contain'd in the Guts, and namely of the Disease Cholera, and Ileus.

1. **T**HAT which is contain'd in the Guts according to Nature, is either driven forward into the *Lactical Veins*, in as much as it is useful to nourish the Body; or is expell'd by *Stool*, in as much as it is unuseful to nourish it: But against Nature the same is either too much excluded by *Stool* with the Humors flowing together in a *looseness* thence call'd, of which we spoke in *Chap. 13.* or in the contracted motion of the Guts inverted, it is repell'd upward into the *Ventricle*, and thence vomited out in a consistent form, or exhal'd or belch'd in the form of a Vapor, or Wind; sometimes it is voided either into the Cavity of the Belly, or cut of the Body by Wounds or Ulcers of the Guts; of which elsewhere.

2. Wind

2. *Wind* therefore breaks out in *Belch's*; and *Vapors* in *Yawning*, and the *Hypochondriac Suffocation*, wherein oftentimes *Wind* also is rais'd; of which we have in part spoken *Chap. 9.* there is no Disease comes to my mind in which *Vapors* are observ'd to rise.

3. A *Vomiting* proceeding from the *Guts*, differs according to the diversity of what is voided; for sometimes Food is repell'd, being first driven down to the *Guts*, other-times *Humors* carri'd down to the *Guts*, and voided either single, and pure, *Choleric*, *Phlegmatic*, *Serous*; or *Bitter*, *Sowr*, *Harsh*, *Salt*, *Sweet*, *Insipid*, &c. or *Yellow*, *Green*, *Ceruleous*, *Black*, *White*, *Watry*, & *Clear*, &c. or variously mix'd; one while *Excrements*, other whiles *Blood*, or more-over *Matter*, or other things rising from the *Guts*.

4. The primary Cause of all this manifold Vomiting, is the contracted Motion of the *Guts* inverted, and drawing, yea compelling the *Stomach* to a consent thereto, and like change of motion.

5. This change of Motion begins frequently from the place where the Passage both of *Choler* and the *Pancreas* is inserted; seldom from the *Seige*; often from this or that part of the small Gut, troubled with a *Gangrene*, or any other grievous Disease.

6. From the place of the Insertion of this double Passage, the motion of the *Guts* haps to be inverted, by reason of the potent and violent effervescency of sharp *Humors*, then in the Body, or corrupted, or irritated by what is newly taken in.

7. The sharp *Humors* that are in the Body, are *Choler*, and the *Juice of the Pancreas*, gone from their natural state, as sometimes also *Spirit* swallow'd, either *Acid* or *Salt*, and carri'd down to the *Guts*.

8. The

8. The things taken in, that corrupt the aforementioned Humors, and provoke them to raise a vitious effervescency, are either *Summer-Fruits, Cherries, Plums, Melons, Peaches, Grapes, &c.* also *new Wine*, or any sharp *Medicines*, making either of the mentioned Humors sharper, as also *Vomits*; or certain *Poisons, Arsenic, Orpiment, &c.* whither *corrosive sublim'd Mercury* may, yea, ought to be referr'd, seeing that if it be taken pure, uncorrected, though in the least quantity, it disturbs and corrupts all.

9. As often as *Choleric Humors* are voided out, *as well upward as downward*, with great force and plentifully, together with the troublesome anxieties of the Midriff accompanying, either of their own accord by Humors before in the Body, or because of an external error committed in Diet; this *Disease* is wont to be call'd *Cholera*.

10. In the *Hypochondriac Disease*, and *Suffocation*, and the *Scurvy* it self, there are sometimes rais'd, freely Vomitings of various Humors, thinner or thicker; too Viscous, or Fluid; Bitter, or Acid, or Salt, or Harsh, or Sweet, or Insipid; Yellow, or Green, or Ceruleous, or Black, or White, or Watry, or Crystal-like, or of divers Colours: so that all the differences occurring in several, or the same Sick People are very difficult to be numbred or reduc'd into a certain order.

11. Sometimes *Blood* also is by force poured out by *Vomit*; which I suspect, if not always, at least most commonly, comes out of the *Pancreas*, by reason of some *Vessel open'd by its over-sharp Juice*; and it is driven up to the Stomach, to be vomited out, there being then also a vitious Effervescency with *Choler*; whilst for the most part some of it descends downward to be voided by Stool.

12. I Cur'd the Widow of a Mariner about 20 years since at *Cullen*, fallen through great grief of Mind, contracted by her Husbands Death, if my memory fail me not, into a grievous and daily Pain of the *Loins*, and hence into a spontaneous Vomiting, and Dejection of Matter, left for incurable by Physicians call'd to see her, yet restor'd by degrees with the help of Sugar'd Wine, warm'd and taken by turns: And seven years after by a grievous sorrow of Mind brought into such a like vehement Pain of the *Loins*. I therefore guessing, by the relation of her former Disease, that Matter lay hid in the part griev'd by a former Inflammation produc'd and collected, gave her twice an *Antimonial Vomit*, and, if I remember right, my *Sapa Vomitoria*; by the help whereof she vomited the first day more than a pint, or $\frac{3}{4}$ xx. of Matter well ripen'd, and by Stool a good quantity of the same; also by the benefit of the Vomit iterated, one or two days being interpos'd, she empti'd again some Matter upward and downward, though less than before, and was restor'd to perfect health, in a short while, some few Cordial Medicins, and such as resist Putrefaction being given.

13. I judg that Matter therefore procedes out of the *Pancreas*, because the place affected answer'd its Situation; and because I have often found Matter collected in greater or less plenty in the *Pancreas* after Death, but not in any other part, from which there was a way to the Guts.

14. The same reason makes me conjecture and think, that the Vomiting of Blood is not to be deduc'd from the *Spleen*, or *Liver*, nor yet the *Mesenterie*, but from the *Pancreas* alone, saving the judgment or observation of others.

15. When the contracted Motion of the Guts begins

to be inverted from the Siege, then I judg an exceeding sharp Humor adheres to it, seeing it is wont to be Cur'd with such as only assuage and temper sharp things. For I never had such a Patient to Cure, that I could make an exact examination of all his Symptoms, and hence give a solid Judgment of every one.

16. Often its contracted Motion begins to be inverted in this or that part of the small Gut, with the Vomiting up of the Excrements following, from the Gut affected, call'd by Physicians *Ileos*, and *Ileos* by Practitioners.

17. I have observ'd in Dissecting dead Bodies, a two-fold Cause of this Evil, the one was a Gangrene of the Gut, such a wrinkling and pressure together of the corrupted Gut accompanying it, that all passage downward was deni'd the Excrements, and were forc'd to a miserable return upward, and so an egress by Vomiting.

18. The other Cause of this evil noted after Death in the Dead by me, was the entrance of the small Gut, in any part straitned, into the next part, which was more opened by wonted Wind: Whence likewise all passage through, for the Excrements by Siege was stop't, and anon their regrefs and ascent to the Stomach follow'd, with a miserable Vomiting of them.

19. I judg'd that Ingress of the small Gut into the next part, happen'd after the aforesaid manner, and indeed one while of the upper part into the next inferiour, other-whiles of the inferior into the upper part; because I had often observ'd, 1. That the small Gut was in many places distended with Wind, and most narrowly contracted for a notable length in the next parts, as well upper as lower. 2. That the same Sick being press'd with Gripes, wonderful-

ly mov'd their Body, and often bow'd it on a sudden. And by that bowing often repeated, it might hap, that Wind prest farther by reason of the Gut relaxed in either end, should yield to the opposite extreme part of the Gut as yet straitned, to insinuate itself into the Cavity of the Gut sufficiently enough displai'd, a straitness presently succeeding of the same Gut freed by Wind, driven forward violent enough about the next part insinuated.

20. As often as the under part of the Gut enters into the upper, so often there is hope of Cure, either of its own accord by Food taken in, or by Art, by Lead or Golden Pills swallow'd; but not so, when the upper part of the Gut enters into the under, because the part included goes on by degrees farther, whence the narrowness is more and more encreas'd, and all descent of what is contain'd is stopt; wherefore of necessity, and surely Death is thence to be expected.

21. There is also frequent mention among Practitioners of the Gut *wrieth'd and wrapt'd together*, no Example whereof, after diligent search, I could find, and now scarce think it can be, that the small Guts should be so intricately complicated, as it were, with a Knot.

22. The Rupture of the Guts is a frequent Cause in Practice, of the voiding Excrements by Vomit, yet not every one, but such and so great ones, that the small and also thick Guts falling out through a narrow hole, either by reason of their proper weight, or for what is contain'd therein perpetually approaching, and remaining there, cannot be put back through the same Hole, nor afford a passage downward, to what is contain'd sliding thither; whence the things contain'd being more and more hardned, and such as sometimes cannot

cannot be dissolv'd, breed an hard and unsuperable Tumor; and moreover hindring also the reflux of Blood, give occasion to an *Inflammation* and *Gangrene* of the Guts soon following, and hence to vomit the Excrements out at the Mouth.

23. All these Evils are often increas'd or bred by *Fomentations* evilly and too hot appli'd; as also by a preposterous and strong *rubbing* of the swell'd part: Lastly, By *Violence* us'd to the swell'd Guts to repel them.

24. The *Cure* of this manifold Vomiting may be perform'd diversly, according to the variety of each Cause.

25. As often therefore as the Irritation of the Guts depends on the *vitious Effervescency* of sharp Humors flowing together, to the inversion of their contracted Motion, so often these over-sharp Humors are to be corrected and temper'd, yea, stupefied together with their Effervescency.

26. The Medicines that temper both Choleric Humors, and those of the Pancreas too sharp, are often propos'd before; to which Opiats also often nam'd are always to be added to assuage the vitious Effervescency, and stupefie the sense of the Guts at least in part.

27. The following Mixture to be taken by Spoonfuls in little spaces, may conduce in the faultiness of the Acrimony of any Humors, whether Salt or Sour.

Rx. *Diascordium* ℥ ii. *Confection of Jacinth* ℥ i. *Syr. of white Poppies* ℥ i. *Plantane-Water* ℥ ii. *Fennel-Water* ℥ i. M.

28. When this Vomiting is staid, if the aforesaid Humors seem to abound, after they are sufficiently temper'd, they may be empti'd out and diminish'd by

Stool, giving Purging Cholagogues, or Hydragogues often mention'd.

29. If the Vomiting cannot be staid by reason of plentiful Humors in the Body, endeavouring an Out-let upward strongly, nothing hinders but that a gentle Vomit may be given; moreover adding those things which also temper, allay, and vanquish their too great Effervescency after a certain manner, and so necessity urging, Opiats themselves in a small quantity. For Example;

℞. The Vomitive Vinegar, and Sugar ℥ ii. Laudanum, half, or a whole Gr. Mint-Water what suffices M. for a Draught.

30. This Vomit being taken, if a Loathing or Vomiting still continue, after a good part of the Humors peccant is voided upward or downward, use the Mixture before prescrib'd, or others alike, according to the diversitie of the Humor that is most peccant.

31. For if the Acid Juice abound, then

℞. Mint, Fennel-Water, of each ℥ i. Aqua Vitæ of Nutbiolus ℥ li. Old Treacle ℥ ii. or Laudanum 2 Gr. Syr. of Myrtle ℥ i. M.

32. If Choler abound in Acrimonie, then

℞. Plantane, Purslan-Water, of each ℥ i. Sp. of Salt dulcifi'd ℥ li. Discordium ℥ i. li. or Laudanum 2 Gr. Syr. of Purslan ℥ i. M.

33. As the Juice of the Pancreas, so also Spittle, and the other over-sharp Humors sliding down from the Head are to be Corrected, Temper'd, and Empti'd out.

34. When the Disease Cholera is rais'd by Summer-Fruit, and usually soon corrupted, then the too much Effervescency that's rais'd in the small Gut is

to

to be asswag'd with the best *Opiats*; to which end one of the three newly prescrib'd *Mixtures* may be us'd as the Matter requires, till that fierce Motion of the troubled Humors somtimes troubling all things in the Body to Death, be stai'd and asswag'd.

35. *Vomiting Medicins* wrong taken, or in too much quantity, causing a cruel Vomiting, are asswag'd and overcome with *Opiats* only. Whence I here again commend the former approv'd *Mixtures*, or others like them, seeing it is ealie to form more such.

36. Among *Poisons* producing enormous *Vomits*, and for the most part deadly, we mention'd *Arsenic*, and *Orpiment*, as also *sublim'd corrosive Mercury*. All which because of their Latent or manifest Acrimony, are most happily temper'd and prepar'd for a more mild voiding, by *oily* things, as *fat Broths*, any *express'd Oil*, *Milk*, *Butter*, and such-like; among which *Milk* uses to be *curded* by them, and then voided; wherefore thus far it is profitable, that *Poisons* curding it, do more readily joyn themselves to it, and thereby lose their strength. Fat things are so long to be us'd, as Pain, Loathing or Vomiting remain.

37. *Opiats* also often mention'd and approv'd, may besides be profitably us'd; as being such that do no less temper all Acrimonie, and asswage the following Effervescency, than stupetie the outward Sense.

38. The *Treatise* and *Cure* of the *Hypochondriac Disease*, and Suffocation, as also of the *Scurvie*, seeing they are Diseases complicated of several and most others, will be more commodiously deliver'd beneath.

39. Whencesoever the *Blood* comes which is voided by *Vomit*, because it always indicates and follows a

Vessel broken and open'd, it requires a ready Consolidation of the Vessel Hurt, without which so hurtful an Efflux of Blood cannot be asswag'd. For which the Mixture prescrib'd in Chap. 9. Sect. 20. or an other like it may conduce.

40. If Blood be thought or fear'd to be Clottor'd in the Cavity of the Guts, to Dissolve it, add to the same Mixture *Crabs-Eyes*, *Diaphoretic Antimonie*, *Sperma Ceti*, and such-like; as is there noted Sect. 21. for it will not be hurtful to use such also, although there be no Blood standing in the *Fistula* of the Gut.

41. For this Golden Rule is continually to be observed by Prudent Practitioners, *That in dubious and uncertain Cases those Medicins may be us'd, which can only profit, and no ways hurt the Sick, whether troubled or not troubled with the Diseases conjectur'd.*

42. The voiding of Matter by Vomit and Stool, is not to be staid, but mildly promoted, seeing it is a Humor wholly unnatural, and in every part hurtful to Man; Its new rise also is to be hindred as much as may be, seeing it is bred of Blood, which is the Fuel of our Vital Fire, and the Sutenance of all parts of the Body, as well containing as contain'd.

43. Among all the things that move or promote the Voiding of Matter, I prefer and commend *Antimonial Medicins*, as those that I have observ'd more-over to have power to correct the Harms befalling the Body by Matter, and hinder the new producing of Matter, seeing that *Antimonie*, as well rightly prepar'd as administr'd, serves no less to purifie Man's Body than Gold.

44. The continual breeding of Matter out of corrupt Blood, is staid also by Balam of Sulphur with Anise-Oil, and any other, taken sometimes in a day to two

or

or three Drops, whereby besides a *certain cleansing and consolidation of the Ulcer* is to be expected, and perhaps more certain than by any other Medicin.

45. To this end also conduces *Diaphoretic Antimonie* and any other *altering Medicin prepar'd of Antimonie*, and especially a *Balsam made Artificially of its Flowers*.

46. The contracted Motion being inverted along all the *Fistula* of the Gut, *fat Broths* are to be us'd, as well taken in at the Mouth, as appli'd and injected into the Fundament, whereby any *Acrimonie* of any Humors, where-ever it be or occur, will be asswag'd, and the troublefom Irritation of the Guts appeas'd.

47. To this same end both *Fragrant Emollient Clysters*, so call'd, may be prepar'd, and often us'd. For Example;

Re. *Marsh-mallow-Root* ζ ii. its *Leaves, Malows, Mulleyn*, of each M. i. *Line, Fengrec-Seeds*, of each ζ i. \ss . Boil them in clean Water; bathe the Fundament with what is strain'd warm; and of ζ viii. of the same, adding Oil of *Wh te-Lilies* ζ i. new Butter ζ \ss . or Hens-fat, or any other that is convenient ζ iii. Make a Clyster, and give it often.

48. To allay the same Irritation, and temper Sharp Humors, both with External and Internal Medicins, *Anodyns*, yea, *Narcotics* may be added, and *Emulsions*, or *Opist Mixtures* be us'd, and many such-like. For Example;

Re. *Cleans'd Barley* boil'd till it crack ζ i. \ss . cleans'd sweet *Almonds*, white *Poppie-Seeds*, of each ζ iii. With Water wherein the Barley was boil'd, make an Emulsion of ζ xv. adding Syr. of *Discodium* ζ i. \ss . *Fenel* or *Rose-Water* ζ i. M.

Let the Sick take a Draught by short Spaces.

49. If any judg a more potent Mixture to be taken in less quantity, will be better accepted, or more useful, let them use this following often by Spoonfuls.

R. *Plantane-Water* \bar{z} ii. *Fenel-Water* \bar{z} i. *Confession of Jacinth, of Alkermes, of each* \bar{z} \bar{s} . *Laudanum* 3 Gr. *Syr. of white Poppies* \bar{z} i. M.

50. If any desire a Medicin in a more solid Form, let him use this following.

R. *Diascordium, or New Treacle* \bar{z} \bar{s} . *Confession of Jacinth* \bar{z} i. M. for a Bole; Half or a whole Dram whercof may be taken by spaces.

51. They who can take nothing beside Pills, for them prescribe these following.

R. *Laudanum* 4 Gr. Make them into 8 Pills, to be Gilded.

Or, R. *Pills of Hounds-tongue* \bar{z} i. *Laudanum* 3 Gr. M. Make it into ten Pills.

Let the Sick take often one of either of these Pills, till the Vomiting be a little asswag'd, and some sleep comes on, which is to be observ'd; not neglecting those things that are outwardly to be administred already mention'd.

52. The most things that are necessary to Cure an *Inflammation and Gangrene of the Guts*, may be requir'd from the general Treatise of both to be deliver'd in thair proper place: Although I judg a *Gangrene of the Guts* incurable.

53. The *Upper Part of the Gut thrust into the Under Part*, will never (at least in my judgment) return; but the *Under being thrust into the Upper*, will not be so difficultly repell'd by *Golden or Lead Bullets*, swallow'd down with *Oil of sweet Almonds*, or of *Nits*, or one or two ounces of *Quick-Silver* taken.

54. Seeing

54. Seeing that the Breeding, and Cure of the manifold Rupture cannot be absolv'd in a few words, we intend (God willing) to treat of it now, or elsewhere in a particular Chapter.

CHAP. XVI.

Of the Straining Chyle through the fleshy Crust of the Guts hurt.

1. **C**Hyle sever'd from the Excrements, is not only driven on downward by the contracted Motion of the Guts, but is also by the same force prest and strain'd through their Fleshy and Spongie Crust into the Lacteal Veins.

2. This Straining through the Chyle is deprav'd, and more or less hinder'd or diminish'd in the Chyle-like Loosness, of which in Chap. 13. Sect. 4. and 12. When either, 1. the Orifices of this Fleishly Covering are over-laid, or stop'd with a Viscous Phlegmatic Humor: Or, 2. the same Fleishy Crust is fretted up and down, and the part of the Gut clos'd up with a Skar, the Pores also tending to the Lacteal Veins being stop'd, as it sometimes happens after grievous Dysenteric Loosnesses rais'd especially in the small Gut: As I have often observ'd in the Dissection of Dead Bodies.

3. And this Evil is wont to be follow'd with some, and sometimes a notable Pining and Leanness of Body continuing till Life be ended, which also spares not fat Bellies.

4. The former Kind may be Cur'd by Medicines that both Cut and Attenuate Viscous Phlegm, and so by

by degrees Correct it, and when it is more or less alter'd, especially if it *abound* also, by such as Empty it out, often mention'd.

5. The *latter Kind* is *Incurable* together with *Leanness*, whatsoever following it. For as yet there are no Medicines known, which can dissolve a Skar made in the Small Gut, or repair a new Crust, and such an one, as will give the Chyle a passage through to the Lactéal Veins.

CHAP. XVII.

Of the Motion of Chyle through the Lactéal Veins deprav'd, and the Dropic Ascites often following it.

1. **C**hyle strain'd through the Flešhy Crust of the Guts, and *admitted into the Lactéal Veins*, ought to be *transferr'd* and *driven forward* through the same to the *Cistern*, or *common Receptacle* or *Passage of the Thorax* situated about the Loins.

2. This *Motion* is deprav'd, when it is *hindred* in one or more places; and *Chyle moves too slowly forward*, or is quite *Stopt*, and *Stands still*.

3. *Chyle* is *hindred* in its *Motion* through the Lactéal Veins, when being too *Thick and Tough*, it is driven forward too slowly.

4. *Chyle* is made *over-viscous*, because of *such-like Food taken too plentifully*, or too long.

5. *Chyle* is *stopt* in its *Motion*, and *stands still in the Lactéal Vessels*, when they are *Obstructed*, sometimes by the foremention'd *Chyle over-viscous Coagulated* in them; other-times by the *Pblegm of the Guts Driven*

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ven forward into them and there *Coagulated*.

6. *Pblegm* of the Guts is *Driven* forward into the Lacteal Veins, as often as it is *Dissolv'd* by the *Motion* of the Body, or *vehement Exercise*, or *Heat of the Air*, what sort soever, of the Sun, Fire, Bath, &c. as also sometimes by a *Feaverish Burning*, and other things then also concurring in the Body; especially *Dissolv'd* upon taking hot or warm Drink, and so becoms fluxil and fluid.

7. The same *Pblegm* is *Coagulated*, as also over-*Viscons Chyle* in the Lacteal Veins rarely by *Coldness of the Air* suddenly following Heat; to wit, when the Body is carried out of an hot place into a cold, out of a Bath into a Cellar, or open Northern Air; and the Belly being less cover'd than ought, admits sharp coldness through the open Pores; but more frequently by *Drink* too cold taken in abundance, soon hasting to the Guts, and not only powerfully *cooling* both the Guts themselves, with all parts near them, and so the Lacteal Veins, but *thickning and coagulating* what is *Contain'd* in them.

8. The over-Viscous Chyle, or *Pblegm* of the Guts being thus *Coagulated* in the Lacteal Veins; and an *Obstruction* made in more or fewer of their Branches, is *stop't*, and settles presently in the same whatsoever is driven into them out of the Guts, either of *Liquor* rising from the continual conflux of *Choler*, the Juice of the *Pancreas*, and the *Pblegm* of *Spittle*, or of *Chyle*, or *Drink* only drunk plentifully; and it does by degrees more and more *distend* the same so far, that at length they *burst*, and consequently either first this manifold *Mixture* receiv'd into them, and intercepted in its Motion, is pour'd out between the *Membranes of the Mensenterie*, or presently after into the *Cavity of the Belly*.

9. I take this often to be the Breeding of the *Dropsie Ascites*, and chiefly when it is produc'd suddenly by much Drink, as in a *Burning Fever*: with an urgent and permanent *Thirst* join'd, I remember has been done within three days time.

10. This *Obstruction* may be Prevented, 1. By taking heed of using over-Viscous Food, and especially from Ravening any.

11. 2. By Using Medicins that Correct and Educe *Pblegmatic* and *Viscous Humors*, often mention'd.

12. An *Obstruction* made, or prudently conjectur'd to be in the *Lacteal Veins* by the aforesaid Contrary Causes, mutually may be Cur'd by Medicins that do powerfully Cut, especially *Sudorific Aromatics*, rather taken often, than together and at once only. For so I have observ'd, that *Obstructions* are more happily, easily, quickly, and safely Open'd.

13. To this end therefore the following *Mixture*, taken at short spaces by Spoonfuls to break forth the Sweat, may be us'd, and afterward to be given when it comes forth, though not so often then.

R \acute{e} . *Parsley-Water* $\frac{3}{4}$ ii. *Fenel, simple Treacle-Water*, of each $\frac{3}{4}$ i. Sp. of *Salt Armoniac* 20 drops. Syr. of *Carduus Benedictus* $\frac{3}{4}$ i. M.

Or, R \acute{e} . *Fematory-Water* $\frac{3}{4}$ iii. *Scurvy-grass Water*, *Aqua Vita* of *Matthiolum*, of each $\frac{3}{4}$ i. distill'd *Vinegar* $\frac{3}{4}$ ℥. *Crabs-Eyes powder'd* $\frac{3}{4}$ ℥. *Salt of Wormwood*, *Diaphoretic Antimonie*, of each $\frac{3}{4}$ i. Syr. of the five Roots $\frac{3}{4}$ i. M.

14. The *Lacteal Veins* will of their own accord Close again after their *Obstruction* is taken away, as happens to a Vein open'd.

15. The *Waters* Collected in the Cavity of the Belly, by various *Humors* flowing out through the Vessels Burst, and producing the *Dropsie Ascites*, being

peccant

peccant in *Place*, will be remov'd out of that place, both by ſtrong *Hydragogues*, and alſo *Sudorifics*, and a *Paracentheſis* or boring the Belly.

16. The *Hydragogues* are often propos'd in this Work, among which the beſt are prepar'd of *Elder*, or *Dwarf-Elder*, *Jalap-Root*, *Elatarium*, and *Gum-Gotte*; not neglecting *Crystals of Silver*.

17. *Sweats* to this end may be given uſefully, both by what is *taken in* often, and newly mention'd, and eſpecially by a *moist* or *dry Bath* join'd together.

18. And if theſe profit not in a ſhort time, you muſt haſten to a *Paracentheſis*, not that common one ſo very dangerous; but a new one that is ſo very ſafe, by a *Silver hollow Needle* gently thruſt into the Belly, about four fingers breadth below the Navel, and ſo many at its Sides, and drawn out again after a ſufficient effuſion of Water; and again at another time or day thruſt into the ſame Hole, except it be judg'd fit to make a new Hole elſewhere.

19. This Chirurgical Operation is void of danger, becauſe the Needle being drawn out, there will no more Liquor run, but apply the Plaiſter *Diapalma*, or the White one boil'd, or any like it, whereby the bored Place is not only ſenc'd againſt all the injuries of External Air, but its Conſolidation promoted.

20. But this *Paracentheſis* muſt not be delay'd, leſt whilst it is too long delay'd, the Humor collected in the Belly get an *hurtful Acrimonie*, and by degrees *corrode* and *corrupt* the *Membranes*, and hence the *Subſtance* of all the *parts contain'd*, and ſo make the Diſeaſe incurable.

CHAP. XVIII.

Of the Sanguification of Chyle in the Right Ventricle of the Heart deprav'd.

1. **C**Hyle carri'd continually to the *Passage of the Thorax* out of the *Lacteal Veins*, and there confus'd with the *Lympha*, whencesoever flowing, goes forward with it into the *Jugular*, or *Left Axillar*, and hence the *Cava* or *hollow Vein*, where it is mix'd with the *Blood*, with which it is driven forward into the *Right Auricle*, and then *Right Ventricle of the Heart* to be chang'd into *Blood*.

2. We think that *this Change of Chyle into Blood*, begins in the *Jugular*, or *Left Axillar Vein*, but chiefly in the *Trunk* of the *Hollow Vein* connex'd to them; and *absolv'd* in the *Right Ventricle of the Heart*, and *perfected* partly in the *Lungs*, partly in the *Left Ventricle of the Heart*, and *Great Arterie*.

3. The *Chyle* has its *Rudiment of Blood* (if I may be Judg) from the *Blood Descending to the Heart*, with which it is confus'd in the *aforsaid Vessels*.

4. The *Chyle* also receives its *Form of Blood* from the *Choleric Blood Ascending to the Heart*, and as well *flowing together* in the *Right Ear of the Heart*, as especially in its *Right Ventricle* with the *Lymphatic Blood*, with which we said *Chyle* was mixt, and *raising an Effervescency of great Moment*, because of its different, yea somewhat contrary disposition of both in certain parts of it.

5. The same *Chyle* obtains its *Last Perfection of Blood*, by the *continu'd and contemper'd Effervescency* newly

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newly mention'd, more accurately to be explain'd in certain Circumstances in the next following Chapters, because of the *Breathing Air* in the *Lungs*, the *Left Ear*, and *Ventricle* of the *Heart*, and the *greatest Branches of the Great Arterie*.

6. By the *power and benefit* of this *Effervescency*, we conceive the *Vital Fire breaks out and rises*, which no less changes the *fat of Chyle coming*, than of *Blood returning* from what place soever, and by *rarefying the Oily Parts*, and also loosely uniting all the other, reduces it into one *Mass Heterogeneally-Homogeneous*, and so *Chyle it self into true Blood* by the same labour.

7. This *Sanguification of Chyle* is *deprav'd* especially, when the *Blood* is bred least laudable and *vitious* by it, *Serous*, *Pblegmatic*, or *peccant in any other Proper or Common Sensible Quality*; which sometimes manifest it self with a *Cachexie*, other-times *Anasarca*, or *Leucoplegmatia*; or else with *Leanness*, or any other apparent fault in *Nourishment*.

8. Every *Cause of Sanguification Vitiated*, is either in *Chyle it self*, or in the *Choleric Blood Ascending*, or in the *Descending Lymphatic Blood*, or in some *External Cause*, or in more concurring together.

9. The *Cause of Sanguification Deprav'd*, is to be sought in *Chyle it self*, and to be found as often as it is produc'd *Vitious*, because either *Food* or *Spittle*, &c. is *Vitious*; of which formerly.

10. The *Cause of Sanguification deprav'd*, is in the *Choleric Blood Ascending to the Heart*, (which abounds with *Choler*) as often as *vitious Choler* is mixt in the *Liver* in a *greater or less quantity*, or otherwise.

11. *Choler* is mixt with the *Blood* in a *greater quantity*, when it is bred more plenteously in its Bag, by
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Aromatic Food, plenteously us'd and abounding with a *Volatil Salt*; or it is *over-plentifully effus'd* out of its Bag, because of the greater fluidity given it, either by *Heat of Air*, or *Food* both too *Sharp*, and also *Spiritous*, or by a *strong Motion of Body*, or by *vehement Anger*, or by *Watchings*, and such-like.

12. *Choler* is mixt in less quantity with the *Blood*, when it is bred more sparingly by *Food* destitute of an *Aromatic strength*, which is wont to produce *Pblegm*, such as is *Sea-Fish*, and such-like, continually us'd; or it is more slowly effus'd out of its Bag, because of its fluidity diminish'd, and thicknes-encreas'd one while by cold and sharp *Air*, other-times by *Food* newly mention'd, and Cold Drink too frequently us'd, other-whiles by a grievous *Sorrow of Mind*, or *Great Terrors* coming unexpectedly; as also by much and long continu'd *Sleep*; and daily *Rest of Body*, &c.

13. *Choler* is mixt with the *Blood*, not only in too great or too little quantity, but sometimes *over-Sharp* or *over-Fat*; and so far also it vitiates it.

14. *Choler* is made too *Sharp* by the *Heat of Air*, the abounding *Acrimonie* of *Food*, or rather of its *Sauces*, such as is in *Pepper*, *Cloves*, *Ginger*, *Mustard*, &c. by *Watchings*, too much and protracted *Exercise of Body*, continu'd *Anger*, especially when join'd with *Solicitude*.

15. *Choler* becomes *Fatter*, especially by too much Use of fat *Food*, at least dress'd with much *Fatness*, *Butter*, *Oil*, &c. whither may be referr'd *distill'd Oils* often us'd.

16. The Cause of *Sanguification Deprav'd*, is in the *Blood* descending to the *Heart*, (and because the *Lympha* is mixt with it, it's call'd *Lymphatic Blood*) as often as the *Lympha* is found either *over-Acid*, or *Salt*, or *Pblegmatic*, or *Watry*.

17. The

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17. The *Lympha* becoms *over-Acid*, because of *Food* both *Sowr*, and season'd with very *Acid* things us'd too plenteously, and long, or because of *Northern Air*, and *Solicitude of Mind*, *Sorrow* or *Terror*, somtimes by *Waking*, and too much *Wearying the Body*, &c. happening.

18. The *Lympha* is made *over-Sa't*, easily and as frequently by *cold and sharp Air* piercing the *Universal Body*, and especially the *Head* warm'd, and running down with a *Sweat*, begetting the *Stuffing of the Head*, that is, a *troublesom Sense of Heaviness*, not only in the *Head*, but in the *Joints* also; whence as a *Salt Liquor* distills afterward through the *Nostrils* in a following *Snuffle of the Nose*; so likewise then it seems even consentaneous not only to *Reason*, but also to the *Affliction of the Sick* then oft urging, and so to daily *Experience*, that there is produc'd all over a *Salt Humor* in the *Conglobated Glandules*, and after that effus'd into the *Habit of the Body*, and the *Muscles*, as also driven forward through the *Lymphatic Vessels* toward the *Heart*.

19. The *Lympha* is *over-Pblegmatic*, by reason of the prolong'd *Use of over-moist and cold Air*, the too much eating of such-like *Food*, especially *Fishes*, *Pulse*, *Potherbs*, &c. *Beer* not enough boil'd or fermented, *Well-Water*, &c. an *heavy Life*, and *Void of Care*; much and long *Sleep*, and many such-like things.

20. The *Lympha* becoms *over-Watry* by the over-*Use of Rain-Water*, or any other too thin, and over-moist *Air*, mean while neglecting as well *Spiritous* as *succulent and Acid Food*.

21. *Sanguification* is immediately vitiated by an *external Cause*, when there is an *Error* committed in one or more *Non-natural things* (so call'd) in that
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time, when laudable Chyle and Blood is carri'd to the Heart, by the *Air* first hot, and suddenly cold; by *Drink* very piercing Spiritous or mixt with Ice, especially abundantly Us'd; by vehement *Agitation of the Body*; by a grievous *Passion of Mind*, Wrath, Sorrow, Fear, Amazement or Solitude vexing, &c. whence either *over-sharp Choler*, or the *Juice of the Pancreas over-Acid*, or over-Sharp, or the *Pblegm of the Guts over-Viscous*, is carri'd all over, and especially towards the Heart, in which it so corrupts either the *Chyle*, or the Blood before well constituted, that the Blood cannot but be bred bad of the Chylé flowing to it.

22. The *Sanguification of Chyle deprav'd*, according to the diversity of the Cause, may be diversly Cur'd. For, 1. as often as it depends of *Choler too Plentiful*, mixt with the Ascending Blood, it ought to be diminish'd by *Cholagogues* often mention'd.

23. The new Rise of the same *Choler* is to be stop'd by *shunning*, or at least *moderating* the *Non-natural Things*, so call'd, that produce it, which were newly mention'd; as also by using more liberally those things which we said bred less *Choler*.

24. 2. When *Sanguification* is deprav'd, by too little *Choler* tending to the Heart, it ought to be *encreas'd*, by using somewhat more plentifully those things, which we have asserted, do breed *Choler more plentifully*; and also by *Shunning* those things which we have taught, according to Experience, to be *contrary to its breeding*.

25. 3. As often as *Choler too Sharp* depraves the *Sanguification of Chyle*, so often it is to be *Temper'd* by Medicines often propos'd before, and especially in *Chap. 1. Sect. 11, &c.* and in *Chap. 10. Sect. 42.*
besides

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besides by *shunning* all things in *Señ. 14.* of this Chapter, which make it too sharp.

26. 4. If *over-Fat Cholera* deprave the Sanguification of Chyle, it ought to be *corrected* with *Acid Medicins*, but the more temperate ones, such as are prescrib'd in *Chap. 2. Señ. 38, &c.* and in *Chap. 11. Señ. 25.* farther *Bewareing* of the abuse of Oily and Fat things, of which in *Señ. 15.* of this Chapter.

27. 5. If the *over-Acid Lympha* deprave the Sanguification of Chyle, it is to be *corrected* and *amended* by Medicins prescrib'd in *Chap. 2. Señ. 17, &c.* and else-where.

28. Mean while diligently *Abstain* from farther *use of Acids*, and the other things mention'd in *Señ. 17.* of this Chapter.

29. 6. When *over-Salt Lympha* depraves the Sanguification of Chyle, then Medicins approv'd in *Chap. 13. Señ. 41, & 42.* may be convenient; as also *Aromatic, mild Sweats*, by the help whereof the Saltness of the *Lympha* is by degrees corrected.

30. In this case *Hydragogues* also conduce, often us'd, in a small Dose, after some contemperation of the Salt Acrimonie.

31. 7. When *over-Phlegmatic Lympha* depraves the Sanguification of Chyle, then are Medicins to be given that *Cut and Correct Phlegmatic Humors* in the Body, prescrib'd in *Chap. 2. Señ. 28, &c.* and such as *Purge* them so prepar'd for being Empti'd, therein *Señ. 33, &c.* also *shunning* those things that we have said here and else-where do breed Phlegm.

32. 8. As often as *over-Watry Lympha* depraves the Sanguification of Chyle, so often *abstain* from the over-Use of any *Water*; and if it abound in the Body, it is to be *expell'd* both by *Exercises* enough Potent, and by the *Bath, &c.* with *Sweats*, not very

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great, but often repeted; to which end *Spiritous* and *Aromatic Sudorifics* may also be us'd, whereby the Animal Spirits almost deficient may be repair'd, and the Animal Strength preserv'd, yea, encreas'd by the same means.

33. 9. As often as the Sanguification of the same is deprav'd (all the Humors, and so Chyle it self being rightly constituted in an Healthy Body) in the *time of the Distribution of Chyle* by one, or more *External Causes*, either inevitable or unexpected, numbred in Sect. 21. so often those things that cannot be shun'd, ought to be, as much as may be, corrected and temper'd, at least the Harms that come by them to every one should speedily be amended and taken away.

34. So if any have been in the cold Air, as soon as may be, let them come to a clear Fire, or go into a warm'd Bed; at least let them cover their Bodies well with Bed clothes, whereby they again expel out of the Body the cold receiv'd.

35. So, if any have abus'd piercing and spiritous Drink, if good part of it yet remain in the Stomach, let them send it out again by a Vomit rais'd, by putting one Finger into the Jaws, or a Feather moistned with Oil, unless they can of their own accord promote it, which is easie, yea, familiar to many.

36. But if the Drink be already gone more into the Body, like a Surfet, its breathing out is to be patiently expected, if then Thirst still urge, by using Sour Drink no way Spiritous or Watry, such as is Mineral Wells, always taking heed of any excess.

37. But if Drink with Ice or otherwise very cold shall have been taken, *Aromatics* and such as abound with a Volatil Oily Salt us'd by turns may conduce, which

which naturally are fit to overcome the harm of drinking with Ice, soonest, safest, and most pleasantly. They will perform this the more happily, if by their help a *Sweat* be also mov'd or promoted.

38. So, as many as *vehemently move* their *Body*, either by Running, Leaping, or otherwise, whence *Sweat* also came forth; they should carefully take heed of the *cold Air*, and rather betake themselves to a Warm'd Bed, to compose themselves to Rest, and that they may shun a greater harm.

39. So, as many as have been mov'd with a *Vehe- ment Passion of Mind*, should endeavour to *assuage* it by themselves, or others, and to *reduce the Mind* to former tranquillity; which *Reason and Discourse* can do by mildly composing the Rational Soul with solid Reasons, whencesoever taken; yea, by confirming and hardning it against any things that cannot be chang'd, to bear them patiently and stoutly.

40. The manifold *Harms* following those Vicious External Causes, ought to be Corrected variously, and as soon as can be, seeing that by the Functions Hurt, or other proper Signs, they are known to the Physician; of which all over in this Treatise.

CHAP. XIX.

Of the Continual and Vital Effervescency of Blood in the Right Ventricle of the Heart hurt.

1. **C**Hyle is not only carri'd to the Right Ventricle of the Heart, some hours after the Food is taken in, whereby it may be chang'd into Blood, but continually by the Blood returning from every Part; and that partly being furnish'd with bitter Gall, partly by having Acid Lympha, there is rais'd in the same place a mild, yea, Vital Effervescency.

2. We call it a Lively Effervescency that is rais'd in the Right Ventricle of the Heart, because the natural Preservation of our Life depends upon it.

3. For by the Conflux of the Volatil Oily Salt ruling in the Gall, and constituting the chief part of the Sourish Sweet Spirit; of these, I say, being somewhat contrary, there is rais'd a gentle, and to Nature friendly Fight, describ'd by Us with the Name of an Effervescency, in and by which the Fiery Parts lying hid, and shut up in both are loos'd from their Fetters, and being free'd, insinuate themselves into the Oily and Fat obvious Parts, both of the Blood, and also of Chyle, as the proper Subject of their Action, rarefying the same; and moreover do so change and alter the other parts more or less mixt with them, that Life may be continu'd, and Blood mov'd any whither; and the necessary Reparation of all the containing and

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contain'd Parts, perpetually more or less Consum'd, may be perfect'd and absolv'd.

4. It haps that this Effervescency, very necessary for Life and Nourishment, is Hurt; 1. When it is either wholly Abolish'd, or Ceases at least for a time. 2. When it is Diminish'd, and is Lesser or Weaker. 3. When it is Encreas'd, and is Greater or more Potent. 4. When it is Hastned, and is too Swift. 5. When it is Retarded and perform'd too Slowly. 6. When it is Deprav'd and observ'd to be Unequal or Inordinate.

5. I. Where this Vital Effervescency is wholly Abolish'd, Death is at hand; because the Vital Fire of the Heart, or rather of the Blood, which by its help us'd to be continu'd in the Heart, is presently extinguish'd by the same.

6. This Vital Effervescency is Abolish'd. 1. By the fault of the Choleric Blood Ascending, and that either for Want of Choler; as oft as it is effus'd with great force into the Small Gut, and hence Choler is excluded out of the Body, as well upward by Vomit, as downward by Stool, in the Disease Cholera; whence no wonder if the Sick perish sometimes therein a few hours.

7. Or because of the high Volatility and Acrimony of Choler, whence the Blood is not only more Dissolv'd, but the Lympha also more sluggish; as we judg it happens in the Pest, and all Malign Feavers, in which the Sick so oft are suddenly and unexpectedly extinguish'd.

8. The same Vital Effervescency is Abolish'd, 2. By the fault of the Lymphatic Blood Descending, which is by reason of the over-Acidity of Lympha, whereby Choler is not only oppress'd and, as it were, suffocated in the Heart, and together with Choler the Vestal

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and Vital Fire; or the Blood it self extremely coagulated, is made unfit for its naturally following Rarefaction.

9. We scarce ever think that such a Defect can be thought of *Lympha*, for which the Vital Effervescency may be Abolish'd, unless perhaps the Passage of the Thorax be somewhat Prest, Wounded, or Burst, and therefore the greatest part Standing still, or Run out another way. Neither seems it probable that all the Conglobated Glandules, from which we judge the Acidity of the *Lympha* proceeds, can be so affected alone, that therefore the Acid *Lympha* should be deficient in the Heart. For as often as the Body is congeal'd with Cold, the extreme Parts are not less, but more seiz'd on by it, than the internal Glandules that lie bid; in which besides the *Lympha* is not so much diminish'd, as corrupted by Cold, although then its Motion be both alter'd and disturb'd; as we observe it falls out in the Stuffing of the Head, in which all Motion of a Humor both to the Nostrils, and also to the Jaws, is Stopt first with an Heaviness of the Head; (whence the name *Gravedo*) afterward the Humor Distills more plenteously, and often thinner and sharper than is wont; to wit, Sowrish Salt, and then this Disease is properly call'd either *Coryza*, whilst it runs out by the Nostrils, or *Bronchos*, whilst it is carri'd down to the Jaws and begets an Hoarsness; as a Cough, when it slides down farther into the Sharp Arterie of the Lungs, and provokes and compels them to a more mov'd and violent Expiration.

10. The same Vital Effervescency is Abolish'd;
3. By too many Vapors rais'd in the most vehement Effervescency, and so employing all the space in the Right Ventricle of the Heart, and hence in the Vessels of the Lungs, that the Fire then also breaking out, is choak'd

choak'd by them, and extinguish'd, otherwise it had been Vital; neither is there further place granted to the new Effervescency presently following.

11. The Vital Effervescency is Abolish'd by too many Vapors in the Right Ventricle of the Heart, not only in as much as the space in the Vessels of the Lungs is deni'd to new Blood that should raise an Effervescency, and consequently undergo a Rarefaction; but also in as much as the Lungs being extremely distended by the aforesaid Vapors, can neither be farther unfolded, nor reciprocally complicated, nor yet Respiration very necessary to temper the Heat of Blood can be perfected.

12. But the same is yet abolish'd. 4. By too much Blood filling all the Vessels, Veins and Arteries, in the Plethora, call'd at or in the Vessels, and Athletic Habit, and that for want of Space to receive the Blood, although meanly to be Raref'd, after a due Effervescency.

13. The same Vital Effervescency is Abolish'd. 5. By the over-potent Vital Fire rais'd in the Heart, rarefying the Blood more than enough, and to an Height; whence by the defect either of a Space large enough, in which it may be receiv'd, or sufficient Cooling, whereby the hot Blood might be temper'd, our Vital Fire is often Suffocated in the most Burning Fevers by its own fault.

14. The Effervescency of Blood sometimes Ceases in the Right Ventricle of the Heart for a time, not only short, but often very notable; to wit, for one or two days, the Pulse and Respiration to be concluded, taken away to outward Sense, as is always in the most grievous kind of Hypochondriac Suffocation, and the Syncope, and also sometimes in a lighter kind of the aforesaid Suffocation, and Swooning Fits, join'd with

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with the Pulse stopt to Sense, such as is frequently observ'd in these Regions.

15. For we must not pass it by, *that the Pulse and Respiration are not always taken away to Sense in every Hypochondriac Suffocation, or lighter Swooning Fits; although they be perpetually more or less hinder'd or diminish'd, seeing the Voice it self and Speech sometimes are more or less hinder'd.*

16. The chief Cause of this Effervescency, Ceasing for a notable time, is viscous and also Acid Phlegm, not too much exceeding in plenty (otherwise it would be Abolish'd with Death following) join'd to the Lympha, and hence to the Descending Blood, and carri'd to the Heart.

17. The Cause of the same Effervescency Ceasing a short while, about a quarter, half, or a whole hour is judg'd by me to be a Viscous also and Acid Vapor, or Wind-piercing out of the Small Gut through the Laeteal Veins and Passage of the Thorax to the Heart.

18. For as this Viscously-Acid Phlegm is more plenteous or solid, or more consistent, or less in quantity, or more Vaporous; so it will hinder our Vital Effervescency more, or longer, or less, or shorter while, and seem to take it away at least to External Sense; seeing it may deservedly be doubted, whether indeed and actually it be taken, or may be taken away without the Patient's Death: the solution and determination of which Doubt, will depend on the Prejudice or Opinion of every one given about the following Question; to wit, *Whether Life can remain without a continual and new Sustentation and Generation of the Vital Fire? Or whether the same could be extinguish'd for a while, and again be kindled and restor'd in the Heart of its own accord, or by help of Medicins, before that a deadly Corruption possess the Blood, and the other Humors.*

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19. *Our Vital Fire* may be said to be *kindled and restor'd in the Heart of its own accord*, when *Acid and Viscous Phlegm* being join'd in too much plenty with the Descending Blood, doth so oppress *Choler* coming with the Ascending Blood, that for a space there is no power of it observ'd, till by the help of this same *Choler*, the aforesaid *Phlegm* being reduc'd and brought back by degrees to some mediocrity, a new *Fire* rises up and restores *Life* to the Body, perhaps taken away for a time.

20. *By the help of Medicins, our Vital Fire* may be said to be *kindled and restor'd*, when in the aforesaid Diseases, one or two Drops of some very *Aromatic Oil*, with a little *Aromatic Spirit of Wine*, or any other convenient *Liquor*, once or often pour'd into the Mouth of the Sick, who is in the Agonie of Death, pierce to the Blood infected, and worst affected with the aforesaid *Viscously-Acid Phlegm*, may raise, or stir up suddenly, or by degrees, the *Vital Fire* it self, languishing or extinct, by correcting or amending *Phlegm*, and also strengthening and relieving *Choler*.

21. But an ingenious Searcher of Truth may question, Whether such an *Aromatic Oil*, fitly call'd *Balsam of Life*, or any other like it, (whose stupendious force in such a case is not unknown, as well to them that are Expert in the Art of Chymistry, as Skilful in the Practice of Physick) be join'd to the Blood, almost condens'd to Death by *Phlegm Viscously-Acid in the Right Ventricle of the Heart*, or elsewhere?

22. As much as I am able to attain by the best of my Understanding, that I may study to satisfy this Question, saving to every Man his particular Judgment, I judg it no wise absurd, to think that this

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Conjunction of the Aromatic, and then truly Vital Oil with Phlegm, Viscously-Acid, too much thickning Blood happens in the Vessels of the Lungs; seeing that nothing offers to hinder, that some part of the over-thick Blood may be driven forward into the Arterie of the Lungs, before either the Pulse or Respiration be taken away to Sense. This being asserted, it will not be difficult to explain, how the strength of the Aromatic and Vital Oil should pierce easily to the Right Ventricle of the Heart, as I conjectur'd, then more or less open'd, and also by the Blood it-self not less coagulated in the Arterie of the Lungs, then too much in the aforesaid Ventricle, and therefore less fluid.

23. These things being inserted, as it were, by a Parenthesis to incite Wits; note, that the wonted Effervescency, and hence the Rarefaction of both sorts of Blood flowing together to the right Ear of the Heart, and therefore both the reciprocal Expansion and Contraction of the Heart, and the Pulse it self is more or less hindred and stopt by both the mention'd Causes, to wit, Phlegm, and a Vapor Viscously Acid; which is observ'd therefore not to be in the *Syncope*, and certain kinds of *Hypochondriac Suffocation*, hitherto to be reduc'd altogether to *Swounings*.

24. Among the six *Non-natural Things*, an *Unexpected grievous Sorrow of Mind*, or *Terror*, and sometimes the *biting Cold of Air or Water*, makes that *Cessation of the Vital Effervescency* sometimes, and oftner in Persons dispos'd to it, because of the *Viscous and Flatulent alio*, and *Acid Humors* now already in the Body, in Women especially, and others of a more fearful Nature.

25. II. This *Effervescency of the Blood* Descending

ing and Ascending to the Heart, is *Diminish'd*, and so becoms *Less* or *Weaker*, by the fault of either the *Choleric* or *Lymphatic* Blood.

26. Of the *Choleric*, when *Choler* is *not sharp enough*, or is *too little* in the Ascending Blood.

27. *Choler* is produced in the Body *not sharp enough*; 1. Because of the over-cold and moist *Air*. 2. Because of *Phlegmatic*, *Watry*, *Oily*, *Acid* (but not *Sharp* and *Aromatic*) *Food* and *Sauces* over-long us'd. 3. Because of much and deep *Sleep*. 4. Because of *Rest* and sluggishness of *Body*. 5. Because of the *Mind* void of *Care*, fearful and sad. 6. Because of the *Monthly Courses*, or wonted *Sweats* suppress'd.

28. *Choler* is found *too little* in the Ascending Blood for the same Causes newly mention'd, and chiefly by a *Choleric Looseness*, or over-great emptyings of *Choler* wrong done, whence the natural quantity of *Choler* is diminish'd.

29. By the fault of the *Lymphatic Blood* the aforesaid Effervescency is *Diminish'd*, when the *Lympha* of the *Glandules* in the Blood is *not Sour enough*, or *too Little*, or over-*Viscous*.

30. This *Lympha* is found in the Blood *not Sour enough*. 1. Because of *Hot* or *Rainy Air*. 2. Because of *Phlegmatic*, *Watry*, *Oily*, or *Aromatic*, but not *Acid Food* and *Sauces*. 3. Because of much and deep *Sleep*. 4. Because of sluggishness and too much *Rest* of *Body*. 5. Because of the *Mind* void of *Care*, or *Angry*. 6. Because of the *Monthly Courses*, or a wonted *Looseness* suppress'd.

31. The *Lympha* comes *too Little* to the Blood for the same Causes newly recited, and especially because the *Lympha* stands still, or is carri'd another way, by reason of the *Glandules* ill-affected, in the *Stuffing*
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of the Head, and other such-like Diseases.

32. The *Lympha* is too *Viscous* in the Blood. 1. By such-like *Food* long us'd. 2. By the Cold and Sharp *Air*. 3. By a grievous and long-continuing Sorrow of Mind.

33. III. The same Effervescency of both sorts of Blood flowing together in the Heart is *Encreas'd*, and becoms *Greater* or *more Potent* by the fault of either, or of both.

34. Of the *Cholerick*, when *Choler* is too *Sharp* or *Plenteous* in the Blood Ascending.

35. We nam'd the *Causes of over-Sharp Choler*, in Chap. 1. Sect. 6, & 7. And Chap. 11. Sect. 18. And Chap. 18. Sect. 14.

36. *Choler* is too *Plenteous* in that Blood, both when it is found more than naturally *Plenteous* in its Bag; and when its *Descent to the Gut* is hindred; and also when it abounds, that is, is provok'd by an *External or Internal Cause*, to *Pour it self out* any way, as is wont to be in the *Disease Cholera*, and several *Burning Fevers*.

37. The *Gall* is too *plenteous* in its Bag, chiefly by the frequent use of *Bitter*, especially *Aromatic* and *Sharp Sauces* and *Medicins*.

38. The *Descent of Choler to the Gut* is hindred, by reason of any *Narrowness* whatsoever that is in its *Passage to the Gut*.

39. *Summer-Fruits* frequently stir up the *Disease Cholera*, of which in Chap. 15. Sect. 8. Chap. 29, &c.

40. We intend to give you the *Causes and Manner of the rise of Burning Fevers*, below in Chap. 29, &c.

41. Let it suffice that we have here noted *Choler* may abound by an inward Cause; that is, be provok'd and compell'd to pour it self out of its Bag, as of-
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ten as some of a *Volatil Acid Liquor* pierces thither together with the Blood, and forces *Choler* to raise an *Effervescency*; whence no wonder, if it runs out at any Passage given, and now being carri'd to the Guts, stirs up *Vomitings*, or *Choleric Loosnesses*, or being carri'd to the Liver, and thence rushing to the Heart, breeds *Burning Fevers*.

42. The Vital Effervescency in the Heart is encreas'd by the fault of the *Lymphatic Blood*, when the *Lympha* is not so Plenteous, as *Volatil* and *Sharp*, though too Little flowing to the Heart with the Descending Blood.

43. And such is the *Lympha*, by the abuse of *Sauces*, or such-like *Medicins*, such as are Wine of the Maize and Rhenish, a little Sower, and also Spiritous, strong Wine-Vinegar, Citron Juice us'd with Spiritous Wine, Spirit of Nitre, &c.

44. But if *Choler*, together with *Lympha*, be peccant after the aforesaid manner, who sees not that this Effervescency of both sorts of Blood must yet be hurt and encreast of necessity.

45. IV. The same Effervescency is perfected more Quickly, because of too little *Pblegm* in the Blood, and *Choler*, and *Lympha* therefore too sharp, and less temperd.

46. *Pblegm* is too Little in the Blood; 1. Because of Summer, and subtil hot *Air*. 2. Because of Food, or Sauces, and Medicins very sharp and Aromatic too plenteously us'd, and others neglected, which are wont to breed Phlegm. 3. Because of a vehement long continu'd motion of the Body. 4. By prolong'd *Wakings*. 5. By grievous and persevering Cares and Solitudes of Mind. 6. By a *Pblegmatic Diarrhea*, or any other preternatural Defluxion or Flux of a *Pblegmatic Humor*, in a Distillation of Rheum, Cough, Dropfie, &c.

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47. V. On the contrary, the same *Effervescency* proceeds *over-slowly*, by reason of the *abundance* of *Viscons Pblegm* especially in the Blood, and some kind of *sluggishness* of *Choler* and *Lympha* following it.

48. We related the *Causes* of *over-Viscons Pblegm*, in *Chap. 2. Sect. 7.* and 9.

49. VI. The self-same *Effervescency* is *Deprav'd*, and becoms *Vitious* several ways, when it is observ'd either *Unequal*, sometimes *Greater*, again presently *Lesser*; one while too *Quick*, presently *over-slow*: or is *Inordinate*, and again ceases a little or is interrupted; again presently *repetes* and becoms more *Potent*, no order being observ'd, as it happens sometimes in several kinds of *Hypochondriac Suffocation*, in which the *Pulse* is felt sometimes *weak*, *rare*, *little*, *compress'd*, yea, sometimes *none at all*; again it is perceiv'd *strong*, *frequent*, *great* or *wonderfully troubled* with a notable *Palpitation of the Heart*.

50. The *Cause* of this *Unequal Effervescency*, is the *Unequal Quantity* of *Choler*, or *Lympha*, or the *Liquor arising* from the foremention'd *three-fold prevalence in the Guts*, or of *other Humors* (that as yet perhaps are wont to be mixt with the Blood, and not as yet enough perceiv'd by any) *join'd to either Blood*.

51. For where *More* of *Choler* enters into the Heart with the *Ascending Blood*, the *Effervescency* will be *Greater*, and *Quicker*, whence also a *Greater* and more *Frequent Pulse*; where on the contrary *Less* of it comes, there will be a *Lesser* and also *Slower Effervescency rais'd*, and also the *Pulse Lesser* and more *Rare*.

52. But where *more of Lympha* shall come with the *Descending Blood* to the Heart, there will pro-
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ceive a Less and Slower Effervescency, together with a Less and more Rare Pulse; contrarily where Less of it shall flow out, there will be a Greater and Quicker Effervescency produc'd, and a Greater and more Frequent Pulse.

53. When the Nature and Strength of the *Liquor rising out of the Three-fold Humors that Flow together to the Small Gut*, shall be more clearly discern'd by us, we can more solidly and certainly determine of the Harms that follow their vicious Constitution. Which also is to be understood of other Humors, if, as we suspect, there may yet be more, which are mixt either immediately or mediately, with the Blood flowing back to the Heart.

54. We therefore note this here, that so we may stir up others to search the Truth with us, that as yet lies hid to Physicians in many things, intending to rejoice and congratulate (as we have done to others already) their greater felicity perhaps in searching out the same thing before us, and always to return due thanks to God, the Giver of all Good, for the benefit bestowed on Man-kind by any; not intending to envy any ones pains, diligence, invention, and other things thereto appertaining, or to blame with Reproaches after the manner of certain sluggish, lazy Men and ill-employing their leisure.

55. We judg the Cause of the *Inordinate Effervescency of Blood* to be the *Unequal Flowing to the Heart*, not only either of *Choler* or *Lympha*, &c. only or together, but of both, or of more. Whence there is a greater Confusion and Disturbance in it, one while with a notable Palpitation of the Heart, presently with its Motion and Pulse taken away to Sense, in the Hypochondriac Suffocation so often observable.

56. Although the *Palpitation of the Heart*, and grievous *Swouning* arises sometimes from *Humors* carri'd with the *Blood to the Heart*, producing a *vitious Effervescency*; yet we think that it is oftner produc'd by *Sharp Vapors* elevated from the *Small Gut*, because of a vitious *Effervescency* there also rais'd, and then carri'd to the *upper Orifice of the Ventricle and Gullet*, and also to the *Heart* through the *Lacteal Veins*, and *Passage of the Thorax*, disturbing the *Effervescency of the Blood*, and irritating the *Heart*.

57. I. Seeing the *Effervescency of Blood* wholly *Abolish'd* is *Incurable*, diligent heed must be taken, that it (as often as may) should be *Shund* and *Prevented* in time; which will be, 1. where the *Defect of Choler* is to be fear'd by the *Disease Cholera*, after the hurtful *Effervescency of Choler* then raging, and its too great *Effusion* into the *Guts* is allay'd, (of which see *Chap. 15. Sect. 26, 29, and 34.*) by *Repairing and Renewing Choler*, by the use of any *Sharp and Oily Aromatics*, as the *Distill'd Oils* of the *Leaves and Flowers of Rosmary, Majoran, &c.* of the *Seeds of Anise, Fenel, Carua, &c.* of the *Rinds of Citron, Oranges, &c.* of *Cinamon, Nutmegs, Mace, Cloves, &c.*

58. These *Aromatic Oils*, if they be united artificially with the *Spirit of Wine*, are call'd by some *Balsams*, or *Elixirs of Life*; whereof one or two drops being given in a convenient *Liquor*, especially *Wine*, do restore the *Vital Strength Languishing for the defect of Choler*, and seem to snatch those out of the *Jaws of Death* that otherwise were dying, do sometimes raise again those, that were esteem'd for dead.

59. Hither also do appertain all *Volatil Salts*; though they that are *Oily*, are more effectual than

than the rest, and therefore to be preferd.

60. The *Abolisht* Effervescency of Blood *may be Prevented*; 2. Where there is fear thereof both in the *Pest*, and also in *Malign Fevers*, by reason of the *High Volatility* and *Acrimony of Choler* then peccant, by *Fixing*, and *Coagulating*, and *Tempering* it by *very Tart Acids*, Verjuice, crude Alum, Acacia, or in place thereof the thickned Juice of *Hypocistis*, or Wild Plums, &c. Among Chymical things, the Spirit of Nitre, Salt, Vitriol, Sulphur, Alum, and such-like are deservedly approv'd and commended, especially often distill'd, and made more mild with the rectifi'd Spirit of Wine.

61. By all these Choler will not only be corrected, but the diminisht *consistency of the Blood will be restor'd*, and the *sluggishness of the Lympha* also amended, and so the Vital Effervescency of Blood for diverse Causes almost Abolisht, will be preserv'd and restor'd.

62. The same *Abolishment* of Blood vitally Effervescent in the Right Ventricle of the Heart, where by reason of *too much Acidity of Lympha*, there is fear lest the Vital Fire be oppress'd and suffocated together with Choler, at least the Blood too much coagulated by it, cannot conveniently be rarefi'd, *may 3. be prevented by Correcting*, and Breaking the faulty *Acidity of Lympha* by the foremention'd *Oily Volatil Salts*, and *Aromatic Oils* as well pure, as farther elaborated into the foremention'd *Balsams of Life*. Which seeing they hitherto conduce, may deservedly be us'd almost in all danger of Life, that happens without great heat, manifest both to the External Senses, and lying hid in Malign Fevers, and especially burning and vexing the Midriff.

63. Not only the exceeding Acidity of Lympha

may be diminish'd by the same Oily Volatil Salts, but Cholera also press'd, and almost oppress'd, may be *strengthened*, and the *over-Coagulation of Blood* it self be *diminish'd* and reduc'd to its natural state.

64. The *Abolishment* of the same Bloody Effervescency, where the necessary space for rarefying Blood is so employ'd, that the Extinction of the Vital Fire is nigh endanger'd by *too many Vapors*, both in the Right Ventricle of the Heart, and Vessels of the Lungs, *may, 4. be Prevented by Dissipating* the aforesaid Vapors already produc'd, and *Hindring* their *new breeding*.

65. The aforesaid *Aromatic Oils*, and any, but especially *Oily Volatil Salts* do *dissipate and discuss Vapors*; always selecting those things, which are prepar'd of the parts of Plants apt of themselves to discuss Vapors, and such-like things found out by Experience.

66. *A new production of Vapors may be hinder'd* by the same *Aromatic Oils*, and *Volatil Salts*, as also by any others that cut the *Viscousness of the Phlegmatic Humors*, as *Acids*, but chiefly by the *Spirit of Nitre*, whose Power in curing this Disease is singular and stupendious.

67. The same *Abolishment* of the Effervescency of Blood, *may be prevented. 5. Where all the Vessels are fill'd with Blood in a Phlebotomic and Athletic Habit*, by *Diminishing the Abundance of Blood*, by a sufficient *Letting it out* with opening the Vein once, or oftner, as the matter requires, and need urges.

68. The same *Abolishment* of the wonted Vital Effervescency in the Blood *may be Prevented. 6. Where there is fear of a Suffocation by too potent a Fire arising in the Right Ventricle of the Heart*, rarefying the Blood too much in the *most Burning Fe-*

vers, by *Tempering* that *Heat* whencesoever arising, and especially by *Acids* taken together with Drink, and aforementioned in *Señ. 60.* farther, by changing and correcting the hot *Air* for colder, the close for more open, the still for more blown, the moist for drier.

69. Because we think that our *Vital Fire* for the most part arises from *Choler*, especially when it is too burning; therefore being guided by Reason, we judge that those Remedies are especially then to be us'd, which most conduce to correct *Choler*, such as also we have mention'd, Experience Accompanying.

70. The same *Vital Effervescency* ceasing for a longer or shorter *Space* both in the *Syncope*, and *Hypochondriac Suffocation* may be Cur'd, by the so often prov'd *Aromatic Oils*, and any *Volatil*, but especially *Oily Salts*; always making variety of Mixtures, together with choice of *Simples*, according to the diversity of Symptoms Accompanying.

71. For as where the above-nam'd *Suffocation* urgeth, *Castor*, and its *Tincture* extracted with rectifi'd Spirit of Wine, and the Spirit of *Salt Armoniac* are deservedly prefer'd before many others; so where Cold much urgeth, as well Externally as Internally in the *Syncope*, or other Diseases like it, I commend the *Distill'd Oil of Cloves*, (before all others as yet found out by me) which is not ungrateful; nor do I disprove the *Oil of Turpentine* less grateful, seeing that with the Oil of *Vitriol*, it stirs up an *Effervescency* join'd with a great heat.

72. For Example take this following Mixture.

Rx. *Penyroyal-Water* ʒ ii. *Simple Treacle-Water* ʒ vi. *Tincture of Castor* ʒ ii. *Distill'd Oil of Mace, of Amber, of each* three drops. *Syr. of Fenel* ʒ ñ. M.

Let this be us'd in the *Hypochondriac Suffocation*, taking it often by Spoonfuls.

73. To this Mixture may be added *Sp. of Salt Armoniac* ℥ i. whence it will be much stronger; or you may add 3, 4, or 5 drops of it to every Spoonful; or apply to the Nostrils a Glass with a narrow neck, containing the aforesaid Spirit, in the most grievous kind of this Disease; for by its sharp smell, the Sick for the most part are wont to be rais'd, both from that Suffocation, and from the Epilepsie.

74. In fear of the *Syncope*, or other lighter *Swounings*, join'd with troublesome and formidable *Cold*, prepare the Mixture following, of Medicines commonly to be sold in the most Shops, in like manner to be taken by Spoonfuls in short spaces.

Rx. Mint-Water ℥ ii. *Aq. Vitæ Matthioli* ℥ i. or
Tincture of Cinamon ℥ ℞. *Oil of Cloves* 6 drops.
Syr. of Scurvy-grass ℥ i. M.

75. I commend the afore-nam'd Volatil Salts, and Aromatic Oils, not only because I am taught it by daily experience, but because Reason perswades the same: Reason, I say, drawn from the Analysis of those Salts and Oils, and of Swounings, and from the Efficient Cause of Hypochondriac Suffocation, Viscous and Acid Phlegm, or likewise Viscous and Sour Vapors, or Tart ones also put together. For those Salts and Oils have power to dissolve and cut that which is Viscous, and to temper and correct that which is Sour and Tart, and again to discuss and dissipate what is Vaporous and Windy.

76. Where the Sick, more like Dead than Alive, cannot open his Mouth nor shut it, much less duely swallow any thing, then it will be commodious, instead of the prescrib'd Mixtures, to have 3, 4, or more drops of the approv'd *Aromatic Oils*, either Simple
or

or more Compounded, or only confus'd and a little shaken, or by greater Art and daily Circulation more intimately joind with the *rectifi'd Sp. of Wine* pourd into the Mouth of the Sick to the Jaws, by a Silver or Gold Funnel, whereby they may pierce both into the Ventricle and Guts (whence for the most part the Cause of so great an Evil is driven forward every where) and into the Sharp Arteric of the Lungs unto the Blood it self sticking in the Vessels of the Lungs, and every where correct and amend the urgent harm.

77. Among the Antecedent Causes, and Non-natural Things, *Sorrow of Mind* may and *ought to be prevented*, both by Philosophical and Theological Reasons defending the Mind in time against every trouble; the Same now present and urging *should be taken away* and overcome with them, although for the most part it is slowly and by little and little.

78. The Mind also may be defended and prepar'd against the *Fear to be expected* and *foreseen*, to bear stoutly any Adversity; whence the Mind will then be less affected by the Terror given, whose harms will again presently vanish; as on the contrary a Timorous Mind will be smitten more potently, and more grievously, esteeming every contrary thing, though the least, for the most grievous, being not fitted, or us'd to bear or endure any thing.

39. All are affected powerfully by an *unexpected Terror*; though the Fearful and Sluggish more powerfully and longer; The Stout and Wise lightlier and shorter, for Reasons newly given.

80. When the Vital Effervescency of Blood *ceases* by the *pinching Coldness of Air or Water*, the Body of the Sick is not only to be carri'd into milder Air, but not hot, or the Parts affected to be remov'd out of

chillish Water, but moreover the Sense is to be stirr'd up in the External Parts with stronger Frictions, yea, Medicins prepar'd of *Aromatic Oils, and Volatil Salts*, and especially such as also will move *Sweats* are to be given, or pour'd in at the Mouth; whereby the Coldness and its Cause, together with the Blood, or *Lympha* that flows back piercing to the Heart and more inward Parts may be driven out.

81. By the benefit of these Medicins, the Harm of Viscous and also Acid Humors, and Wind that were before in the Body may be Amended: and for *Preventions*-sake the same may be taken, as often as the Body is to be expos'd to over-Cold Air, or to go into Water.

82. II. *The Effervescency of Blood Diminish'd in the Heart*, because of *Choler* less sharp, may be Cur'd;

1. By Changing the Over-Cold, and Moist Air into Hotter and Dryer, at least prepar'd by Art with a clear Fire, and Aromatic Plants dispers'd in the Chamber.

83. 2. By mixing Aromatic and Sharp *Sauces* with *Meat*, as also abstaining from very Phlegmatic, Watry, Oily, and Sour Food.

84. 3. By detracting something from *Sleep*, and daily protracting Watchings.

85. 4. By exercising the Body more and more, even to a mean Weariness.

86. 5. By busying the Mind with *Cares and Solitudes*, nor abhorring from *Anger* not too vehement; chiefly studying for *Gladness*, and driving away *Sorrow* and *Fear*.

87. 6. By kindly moving the wonted Monthly Courses, and *Sweats*, by Medicins describ'd and to be describ'd often, and especially in their proper place.

88. The aforesaid *Effervescency Diminish'd* by too little

little Choler contain'd in the Ascending Blood may be *Cur'd*; by the foremention'd means, when it has the same Causes which Choler less sharp had; but when it follows a *Cholerick Looseness*, or too great Evacuations of Choler evilly instituted by imprudent Persons, both by compressing and suppressing that over-great Efflux of Choler, if it still continue, by more gentle *Tart Springs* and *Opiats*, often already mention'd here and there; and also by repairing the Defect of Choler, by *Sauces* or *Medicins* both *Aromatical* and *Sharp* enough; also in several Chapters mention'd, as *Mustard*, *Horse-Radish*, *Cresses*, *Scurvy-Grass*, *Pepper*, *Ginger*, *Cinnamon*, *Cloves*, *Cardamoms*, &c. For by the help of these Choler will not only become *Sharper*, but also more *Plenteous* in the Body, and consequently the Effervescency of Blood will be *Encreas'd* being before *Diminish'd*.

89. The same Effervescency *Diminish'd*, because of *Lympha not Acid enough* may be *Cur'd*; 1. By Changing the *Air* bot by the Sun, or any Fire with cold *Air*, and betaking himself into a place under-Ground, or otherwise cool; and by correcting the *Moist* or *Rainy*, chiefly by a clear Fire, especially prepar'd of odorous Woods kindled in a Chamber, or in any other Lodging-place.

90. 2. By often using *Sour Sauces* and *Medicins*, the Juices of Citrons, Oranges, Currans, Barberries, Vinegar, Sorrel, Spirit of Salt, of Vitriol, of Sulphur, of Nitre, &c. by the help whereof the thence diminish'd Effervescency of Blood will be *Encreas'd* by little and little, together with the deficient Acidity of *Lympha*. Which that it may be sooner, *Phlegmatic*, *Watry*, *Oily*, and very *Aromatic Food* and *Sauces* are to be shund together, at least diminish'd.

91. 3. By Diminishing *Sleep*, and daily *Encreasing Watches*.

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92. 4. By Exercising the Body more and more with moderate stirring.

93. 5. By Busying the Mind with Cares, and a sorrowful Solitude.

94. 6. By Restoring the familiar Monthly Flux, or Loosness suppress'd.

95. The same Effervescency of Blood Diminish'd by too little Lympha, may be Cur'd; 1. By Encreasing the same gradually by *Sowr Sauces* and *Medicins* before mention'd, daily us'd at any time in a small quantity.

96. 2. By taking away every Obstruction of the *Lymphatic Vessels*, or any other Narrowness, and the Cause of the Stoppage, and also of the Bursting of those *Vessels*, and so of the Effusion of *Lympha*, by *Medicins* Dissolving and Cutting *Pblegm Coagulated* in the fore-nam'd Vessels, and chiefly *Sudorifics* often prescrib'd in this Treatise; always observing that those are us'd with greater success, when the Body is compos'd to Sweat kindly, and especially when the same is driven forth; for so that hurtful Obstruction is open'd easier and quicker.

97. Lastly, The afore said Effervescency of Blood Diminish'd by the *Lympha too Viscous*, may be Cur'd, by using the above-mention'd Cutting Medicins, both Acid and Salt, and especially *Volatil*, such as are the *Spirit of Salt*, either simple or dulcifi'd, and all *Volatil Salts*, especially *Oily*, so often and deservedly recommended by us, daily and in less quantity taken, both without and with Food.

98. Mean while *Viscous Food* is to be shunn'd; as also the cold and sharp Air, and a grievous and continu'd sorrow of Mind: Instead whereof Food of ease digestion is to be us'd, Wheat-Bread rightly fermented, of Flesh, those Flying rather, then Watry adding

ding Aromatic Sauces; and so go into, or make by Art the Air warm and dry; and let the Mind be dispos'd to Chearfulness, and recreated with grateful Objects.

99. III. The Effervescency of Blood Encreast, may be Cur'd; 1. When over-sharp Gall is its Cause, by Correlling and Tempering it chiefly by the above-recited Acids, to be vari'd according to the peculiar Constitution of every Sick Person, and more or less to be altered by adding other things.

100. It may be Cur'd; 2. When the Gall being too plenteous in its Bag, goes in too great plenty to the Heart, by Diminishing and Emptying it with Choleragogues already often describ'd by us, and chiefly in Chap. 2. Sect. 42, &c. but us'd in a lesser Dose: Lest otherwise an over-Purging or other grievous Symptoms be stirr'd up.

101. They must also Abstain from farther use of Aromatic and Sharp, and especially Bitter Sauces or Medicins.

102. The same may be Cur'd; 3. When the Descent of Choler to the Gut is Hindred, by a Phlegmatic Obstruction that is in the Passage of Choler to the Gut; by Dissolving it with such as Cut, as before in Sect. 97. and in Chap. 2. Sect. 28, 30, &c. yea, everywhere describ'd.

103. And if the Obstruction of the Passage to the Gut be Gravelly, it may commodiously be Dissolv'd, both by the Decoction of Grass, or Water distill'd after a previous Fermentation, and also by the best Spirit of Nitre daily us'd with other things, and also by others more special for this Gravelly Coagulation.

104. The same may be Cur'd; 4. When Choler Swelling of its own accord, that is, by an Internal Cause, is provok'd to an Universal Effusion of it

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ſelf, by *Thickeniug* and *Fixing* both *Choler*, and the *Volatil Acid* raging in the Body, chiefly by *Sulphurs* of *Minerals* or *Metals*, call'd *Narcotics*, or rather *Anodyns*, as alſo the divers *Boles*, and *Scald Earths*, eſpecially extracted about the *Gold Mines*; by which that dangerous, and often deadly *Effuſion* of ſierce *Choler* may alſo be *Prevented*.

105. We gave you the *Cure of the Diſeaſe Cholera*, in *Chap. 15. Sect. 34.* as we intend anon in *Chap. 29. &c.* to give the manner of curing *Burning-Fevers*.

106. The ſame *Efferveſcency of Blood Encreaſd*, may be *Cur'd*; 5. When the *Lympha*, both *Volatil* and *Sharp*, though *Leſſ* in quantity, is carri'd to the *Heart*, and is the *Cauſe* thereof, both by *Abſtaining* from farther uſe of *Sauces* or *Medicins*, that have a *Volatil* and *Sharp Acidity*, and what is noted in *Sect. 43.* and by *Taking* by ſits *ſowr Things more Tart*, and diluted in a ſufficient quantity of *Water*,

107. IV. This *Efferveſcency of Blood perfected more ſpeedily*, becauſe of *over-Little Phlegm* in it, and *Choler* and *Lympha* therefore *over-ſharp*, and too little *Temperd*, may be *Cur'd*; 1. By *Repairing* and *Encreaſing* the deſir'd *Phlegm* with *Food* that breed much *Phlegm*, *Broths* prepar'd of the extreme parts of *Living Creatures*, the *Heads* and *Feet* of *Calves*, *Sheep*, &c. *Fishes*, eſpecially *Sea-Fiſh*, *Cows* and *Goats Milk*, &c. By *Abſtaining* in the mean while, at leaſt *ſparingly uſing* very *Sharp* and *Aromatic Sauces*, or *Medicins*.

108. 2. By changing the *Air* any way *Hot* or *Subtil* into *Cold* and *Thicker*.

109. 3. By compoſing the *Body* from vehement and perſevering *Motion* to *Reſt*.

110. 4. By

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110. 4. By changing prolonged *Watches*, with longer and deeper *Sleep*.

111. 5. By freeing the *Mind* from *grievous* and molesting *Cares and Solitudes*.

112. 6. By stopping and curing a *Pblegmatic Diarrhea*, or any other preternatural *Deflux* or *Efflux* of a *Pblegmatic Humor*, as is explain'd in its proper place.

113. V. The *Effervescency* of Blood *proceeding too slowly* by the *Abundance* of *Pblegm*, especially *Viscous*, and therefore the *Sluggishness* of *Choler* and *Lympha*, may be *Cur'd* with the *Diet* and *Medicins* propos'd both in *Chap. 2. Sect. 28, &c.* and also in this *Chap. Sect. 96, &c.* and elsewhere.

114. The *Deprav'd and Unequal, or Inordinate Effervescency* of Blood, by the *Unequal Flux* made to the *Heart*, either of *Choler*, or of *Lympha*, or of the *Liquor arising* from the *Ternarie* of *Humors* *Flowing* together to the *Small Gut*, or of any other *Humor* only as not enough observ'd, or of *More* together, whether in the form of a *Liquor*, or *Vapor*, may be *Cur'd*; both, 1. by *Correcting* the *Fault* of every *Humor* any way peccant: And, 2. by *Restraining* the vitious *Effervescency* of more flowing together: And, 3. by *Amending* or *Discussing* vitious *Vapors*, or *Wind* then rais'd: And, 4. by *Composing* the *Mind* troubl'd with any *grievous Passion*, the most frequent and potent Cause of divers *Humors* confusedly mov'd: And, 5. by *Shunning* or *Tempering* the *Air* or *hurtful Food*, the more rare, and less potent Cause of the *aforesaid* agitation of the *Humors*.

115. 1. *How and by what means* the *Faults* of every *Humor* in *Mans Body* hitherto known, ought to be *Corrected*, is often said afore.

116. And

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116. And because I made mention in *Sett.* 50 and 53, of this Chapter, of other Humors that (to my knowledg) as yet are not known and seen by any; which I said I suspected not without cause, were in Man, and also were mixt with the Blood returning to the Heart, either immediately or mediately, and being vitiated, did wonderfully sometimes disturb the Effervescency of the Blood, nor yet have I nam'd or shown them, this deservedly mov'd a famous Physician, who was pleas'd to peruse these precedent things being Printed, to advise me, that I would at least in a word or two explain what I had said, lest I should seem to have deceiv'd any one, and lay open some of those Humors that were conjectur'd by me: To whose acute and exact judgment, as I always attributed much, so I judg'd his Counsel in this Matter to be follow'd by me.

117. Many things sometimes testifie, both in Health and Sick Persons, that something from the *Testicles*, or other *parts ministering to the generation of Seed*, especially in those that are vigorous, and produce much of potent Seed, goes through and passes into the Universal Body, which may much and strongly affect it. To which saying, not only Effeminate Gelded Persons give assurance, but both Men and Women more chearful to Venery, and sometimes stirr'd up by an unexplicable fury of natural Lust, and especially at meeting the Object potently moving the Senses, and wonderfully making commotion in the Fancy; whence, when they cannot obtain their Wishes, or it is not convenient, the infinite Histories full of commiseration noted by Physicians, do teach and evince with how many Evils those miserable People are therefore thence vex'd and oppress'd.

118. This same is confirm'd by sweet and grateful
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Flesh of Gelded Brutes, Oxen, Weathers, Capons, &c. much differing from the Flesh of Ungelded Brutes, Bulls, Rams, Dunghil-Cocks, &c. rank and ungrateful in taste.

119. Add that Brutes no less than Men are wont very much to fatten after Gelding; and Men made Eunuchs, before ripeness of Years, do seldom send forth much of a manly Beard, or get a Man-like Voice.

120. That all these things are to be deduc'd from a Spermatie Vapor dispers'd through the parts of the Universal Body, as well containing as contain'd, many things evince, which to set forth in many words cannot be done here.

121. Beside the *Testicles*, there are observ'd, up and down in Mans Body, *Glandules* more or less differing from the rest, as those of the Kidneys, and those other call'd *Tracheales*, in which that a *Singular Humor* is produc'd, and immediately or mediately to be communicated to the Blood, their singular Fabric proves.

122. Among these deservedly may the *Glandule Thymus* be numbred, of the kind of those that are Conglomerated, whose *proper Voiding Vessels*, as they are hitherto unfound out by all Anatomists, at least to my knowledg, so the Liquor whatsoever carri'd through them, and so its *true Use* is even now unknown to all.

123. And because I being detain'd perpetually with manifold Busineses, could not be at leisure hitherto to search according to my wish what I desir'd of these and other things, I have often exhorted many of mine Auditors, ingenious and industrious in *Anatomy*, to search these and such-like parts more diligently; whereby, if it may be, they might search
out

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out these and many more things, that as yet lie hid from us, and manifest to the Studious with the praise and commendation of their name; which lastly I here make public again, and wish happy success to every one.

124. Therefore until the Mentiond Humors, or Vapors be seen by Us, we will be silent a while concerning their various Vices and convenient Remedies, whereby returning into the way we may teach, As often as *more Humors together*, and that *divers ways* are judg'd to be peccant, and therefore more *inirricatly to vitiate the Effervescency of Blood*, so often those things are to be sought out by acute and solicitous Judgment, to be selected and premis'd before others, which do chiefly help the more urgent Humor, or distemperature, or else the general Remedies so to be temper'd, that they may together amend the Harms of every one, and cherish or encrease none. Where there is need of an experienc'd Judgment by the long use of things, and of an accurate Observation of those things that Help and Hurt; which things being neglected, a Physician, very Careless, cannot but often be deceiv'd to the detriment of the Sick.

125. 2. *Opists restrain any Effervescency of Humors* before many others, and universally: to which other things may be added that also temper Them, as the Matter requires, and according to the diversity of Humors most peccant, whose Forms we have often propos'd.

126. 3. We have often prescrib'd in this Treatise, and especially in *Chap. 9. Sect. 23, &c.* those things that *Amend and Discuss Vapors and Wind*.

127. 4. *Solid Reasons compose the Mind troubled with Fissions, and disturbing all the Humors in the Body* propos'd to the Sick Mind, by Manly reasoning, and
by

by potently compelling its Assent both to former serenity, and also leading and confirming it patiently and stoutly to bear the most troublesome things, when they cannot be altered.

128. 5. By what means both hurtful Food, and vitious Air, ought to be shund or corrected, is often told before.

129. Seeing that the Unequal Afflux to the Heart, one while of Cholera, anon of Lympha, or of any other hurtful Humor which stirs up an Inordinate Effervescency of Blood in the Heart, arises as well from divers Passions of Mind, as the other Non-natural Things diversly, but suddenly and reciprocally invading the Sick, it may be Cur'd, also by divers helps, as well Spiritual, consisting in a consequent reasoning, as Corporal known by the name of Medicins, often to be chang'd, or ingeniously to be mixt, according to the diversity of accompanying Symptoms.

130. Seeing all these things may without difficulty be had out of what is aforesaid, lest we should cause loathing by continually repeating them to the Reader, we will rather hasten to what follows, studying brevity.

CHAP. XX.

Of the Motion of Blood through the Lungs affected.

1. **T**He Blood raising an Effervescency, waxing Hot, and Rarefying in the Right Ventricle of the Heart, opens its Passage by degrees more and more, till by that displaying the provoked Heart contracts its musculous substance by the help of the Animal Spirits, and also presses out the Blood containd into the Artery of the Lungs; out of which being pourd through the substance of the Lungs (which seems most probable to me) into the Vein of the Lungs, goes on unto the left Ear of the Heart, and its left Ventricle.

2. And whilst the Blood goes through the Lungs, it is mildly temperd in its Heat and warmness, and more or less condensd by the Air suck'd in, lest the newly kindled Vital Fire in the Heart and Blood should be Suffocated by over-plenteous Vapors raisd up by too much heat.

3. This Motion of Blood through the Lungs is Affected. 1. When there is None; 2. When it is too Slow; 3. When it procedes too Swiftly; 4. When the Blood is driven forward another way, than it ought.

4. I. There is No Motion of Blood through the Lungs. 1. Because of its Defect in the Right Ventricle of the Heart, the Hollow Vein being greatly wounded, and almost all the Blood, that should otherwise flowd to the Heart, effusd within or without the Body.

5. 2. *Because of its Coagulation and Concretion,* although I can scarce imagine a sudden exceeding great one, unless perhaps in the most grievous *Syncope*, by a Sower sharp Humor carri'd abundantly to the Heart; as we observ'd has often been done by sower Spirits infus'd by a Syringe into some notable Vein of a Dog.

6. 3. *Because of the Contraction of the Heart ceasing* in a most vehement *Apoplexie*, by reason of the Motion of the Animal Spirits through the Nerves to every part hinderd:

7. 4. *Because of too much Filling again of the Vessels of the Lungs,* both often in an extreme *Plithora*, and seldom in any Obstruction of most of the Vessels of the Lungs.

8. When this *Universal Motion of Blood* through all the Vessels of the Lungs, is very much hinderd, and ceases, or is *Extinguish'd* by the defect of Blood; or *Suffocated* by its plenty, or *standing still*; they soon die, unless suddenly the Blood abounding be diminish'd by breathing a Vein, or *flowing more plentifully* be turn'd another way, as the Matter requires.

9. When the Blood ceasing to move only in some Vessels of the Lungs by reason of an Obstruction stands still there for some time, it breeds a *Peripneumonia*, that is, an *Inflammation of the Lungs*.

10. II. *Blood is mov'd more slowly* through the Lungs; either, 1. because of its *Viscosness*, produc'd by *Pblegm* alike *Viscous*, whencesoever arising.

11. Or, 2. because of the *Narrowness* of their Vessels, though not extreme.

12. Or, 3. because of the *Scarcity* of the *Animal Spirits* moving the Heart more weakly; whether they have been *consum'd* too much by Grief,

Watchings, solicitous Meditations, Cares, Wearings of the Body, &c. Or if they have not been repair'd by protracted Hunger, at least the defect or neglect of Spiritous Food.

13. III. Blood is mov'd more speedily through the Lungs; Either, 1. because of its encreast Fluidity by any serous Humor abounding in it.

14. Or, 2. because of over-great Heat in the Heart stir'd up any way, together with a more potent and therefore swifter Rarefaction of Blood.

15. Or, 3. because of a Sharp Humor or Vapor carri'd together with the Blood to the Heart, and provoking it to a more frequent contraction of it self, and expulsion of the Blood contain'd.

16. IV. The Blood driven forward through the Lungs, is mov'd another way than should be; 1. When it breaks forth into the Sharp Arterie, out of its Vessels corroded or burst, and is anon cast out by the Mouth in the Hemoptoe, that is, Spitting of Blood.

17. 2. When it is effus'd into the Substance of the Lungs, out of its Vessels any way open'd, and produces a Peripneumonie.

18. 3. When it falls out of its Vessels Wounded into the Cavity of the Brest, where being gatherd and chang'd into Matter, constitutes an Empyema, or Spitting of Matter.

19. The Vessels of the Lungs, are often Corroded by Sharp, and salt, or sower Humors falling down out of the Head to the Lungs; seldom, if ever, by Such-like carri'd together with Blood to the Lungs.

20. The same Vessels are Burst; 1. By a Cough, Crying aloud, Leaping, or any other over-vehement Motion of Body.

21. 2. By Blood waxing too potently warm in the Heart,

Heart, and withal too much Distending the Vessels of the Lungs by waxing too thin.

22. The same Vessels are Wounded by any sharp Instrument, a Knife, Sword, or any other like it struck into the Lungs through the Breast or Midriff, piercing and cutting their Vessels.

23. 1. The Motion of Blood in and through the Lungs Deficient, because of its defect in the Right Ventricle of the Heart cannot be Cur'd.

24. A strong and sudden Coagulation and Concretion of Blood is to be esteem'd Incurable; but that which comes by degrees, and is gradually encreas'd, may be Cur'd by Medicins that break and temper the over-sharp Acidity, and so such as are both Spiritous and Oily, and especially have a Lixiviat Salt; although volatile oily Salts do chiefly conduce to Man, as consisting of all and every thing that is aforesaid, and are not only transfus'd, most speedily every way in the Body, but do potently enough, though mildly effect and perfect the desired amendment of the over-sharp Sour Humor, if diluted, and often us'd in a convenient Liquor.

25. Among the Medicins commonly known, Crabs-Eyes are deservedly mention'd, being dissolv'd in Wine a little Sour, or in a little distild Vinegar, (whereby they may the easier mix with the Acid Humor peccant in the Body). For Example;

R. Hyssop, Fenel-Water, of each \mathfrak{z} i. lb. Matthiolum his Aqua Vita \mathfrak{z} i. distild Vinegar \mathfrak{z} ii. Crabs-Eyes ponder'd \mathfrak{z} lb. Syr. of Scurvy-grass \mathfrak{z} i. M.
Or, R. Mint-Water \mathfrak{z} ii. lb. Simple Treacle-Water \mathfrak{z} vi. Tincture of Castor \mathfrak{z} ii. Sp. of Salt Armoniac \mathfrak{z} i. Oil of Orange-Peel 6 drops. Syr. of Fenel \mathfrak{z} i. M.

The first Mixture will be less effectual, but more

grateful; the latter less grateful, but more efficacious; both us'd by Spoonfuls, will conduce to temper the too sharp Acid Humor; although the latter is to be prefer'd, when any thing of Tartness shall be observ'd to concur, whose chief sign is any Straitness tending to the Hypochondriac Suffocation, whether it rise up to the Jaws, or stick about the Midriff, and beget inexplicable anxieties to the Sick, continually threatening a present Swouning.

26. The *Contraction of the Heart* ceasing in a vehement Apoplexie, will never be Cur'd, nor easily prevented, unless by very *Spiritous and Aromatic Liquors* often us'd, *Matthioli* his *Aqua Vine*, *Apoplectic Waters* and such-like; mean while not neglecting other things that correct and educe the Antecedent Causes of the Apoplexie to be propos'd elsewhere,

27. A *Plethora of Blood* is soon and safely Cur'd, by a sufficient Emptying of it by opening a Vein; whether it be together and at once, or by repeted turns, according to the peculiar nature and strength of the Sick. For there are many who cannot bear to have much taken away together, but soon fall into a Swouning; by which seeing none can at any time receive any good, I had rather that it should be prevented, as often as may be, and every Cure be done securely rather than rashly, seeing it often happens to those rash Blood-Letters, that they educe Life together with the Blood: Whereof there is no danger, if the Blood be taken in a smaller quantity by short spaces, to be stop't as soon as the least sign appears of a present Swouning; and after that, if the Disease still require, again to be taken away with more benefit to the Sick.

28. The Reason, Generation, and Cure of an *Obstruction and Inflammation* following it, shall particularly be treated anon in Chap. 40.

29. II. *The over-slow Motion of Blood through the Lungs, may be Cur'd*; 1. *By Correcting its Pblegmatic Viscousness, by Medicins that Cut and Attenuate, whether Spiritous, or Salt, or Oily, or sometimes Acid, us'd either alone, or prudently mixt, often propos'd.*

30. 2. *By taking away the present Straitness of the Vessels diversly according to the diversity of the Causes peccant; but of these things elsewhere.*

31. 3. *By Repairing the want of the Animal Spirits contracting the Heart too weakly, both by taking often Food very Spiritous, strong Wine, and especially its Spirit, as well simple, as many ways Aromatiz'd with the addition of divers things, seldom alone and pure, often broken and diluted with the mixture of grateful watry Liquors; and also by shunning, and moderating Cares, and Watchings, night Studies, prolongd Weariness of Body, &c.*

32. III. *The over-swift Motion of Blood through the Lungs, may be Cur'd*; 1. *By diminishing its Fluidity by Thickning Food or Medicins.*

33. *Of Food use Feet, and other extreme parts of Brutes abounding with Gelie, and so Fishes, and especially Sea-Fish.*

34. *Let the Drink be Red Wine, and a little harsh, or Steeld Beer, or made Medicinal with any more grateful Astringents.*

35. *Among Medicins we mention Diascordium, new Treacle, and every kind of Sealed Earth, Harts-Horn, &c.*

36. *The Pills of Hounds-Tongue correct the Salt Serous Humor before all other things, taken daily once or twice to two or three Grains; instead whereof these of Styrax following may be prepar'd and us'd in like quantity.*

L 4

R. Styrax

Rx. *Styrax Calamita*, Juice of *Licorice* thickned or extracted, *Olibanum*, red *Myrrh*. *Opium* of *Thebes*, of each ʒ ss. *Oriental Saffron* ʒ i. with Syr. of white *Poppies* as much as is sufficient. Make it a Mass of Pills.

37. If Troches please better, use the following form, or one like it.

Rx. *White Henbane*, white *Poppie-Seeds*, of each ʒ ss. Male *Frankincense*, red *Myrrh*, of each ʒ i. best *Saffron* ʒ ss. Juice of *Licorice* thickend ʒ i. Sugar of *Marsh-mallows* ʒ ss. Gum-*Dragon* dissolv'd in *Rose-Water* ʒ i. M. to be small Troches according to Art.

Let the Sick keep one of these often in his Mouth, and swallow it by degrees. Also *Opium* of *Thebes* ʒ ss. may be mixt with Them, whence any Acrimony of Humors may more powerfully be corrected.

38. 2. The over-quick Motion of Blood through the Lungs, may be Cur'd, by tempering its Heat increased in the Heart by Sower and Watry things, of which consists *Sempervivum Majus*, *Plantane*, *Nightshade*, *Sorrel*, &c. that allay the heat of Blood more mildly or more potently.

39. 3. The same over-quick Motion of Blood through the Lungs, may be Cur'd, by Tempering the sharp Humor (carri'd to the Heart) by those that are Spiritous, Oily, and especially *Opiats*, and others often mentiond; and also when it abounds, Educing it by *Hydragogues* often mentiond.

40. Sharp Vapors also carri'd to the Heart, are to be Temper'd with the same, and Discuss'd by Spiritous Diaphoretics, having both a Simple and Oily Volatil Salt. Their new Production ought to be hindred especially by *Opiats* and *Anodyns*, most convenient to the

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Constitution and Accompanying Symptoms.

41. IV. *The Blood Effus'd through the Lungs Mov'd another way than whither it ought, may be Cur'd;*

1. In the Spitting of Blood, the burst or corroded Vessels being speedily Consolidated by the Mixture describ'd in Chap. 9. Sect. 20. or one like it, being oft taken by Spoonfuls: presently Turning the Blood from the Lungs that flow'd too plenteously in a Plethora by a Vein open'd in the Arm, or in either or both Feet; Lastly, The Sharp Salt, or Sour Humors that descend from the Head, being Corrected by those before mention'd in Sect. 35, &c. Opiats, and mild Aromatics. Also by Curing, or Shunning Coughing, Shouting, Leaping, or any other too vehement Motion of the Body.

42. When the Vessels of the Lungs are distended near breaking by the Blood Kindled, and waxing too thin, the Blood is to be let out speedily by Opening a Vein, and temper'd, moreover taking cooling Julaps in a sufficient quantity, especially prepar'd of those that are Watry and Sour. For Example;

R. Barley-Water \bar{z} xx. Julap of Roses \bar{z} iii. Oil of Sulphur prepar'd by a Glass-Bell, as much as suffices for an Acidity grateful to the Sick. M.

Let the Sick often drink a moderat Draught, till the Heat be observ'd to be moderat.

43. The Cure of a Peripneumonie is to be seen in Chap. 40.

44. The most Wounds of the Great Vessels of the Lungs are wont to be deadly; but the Cure of the Lesser, and also of Spitting of Matter, shall be given elsewhere.

CHAP. XXI.

Of the Alteration of Blood by Air Inspired, and Expired Deprav'd.

1. **T**He most do judg that *Respiration* was ordaind to temper the heat of Blood, over-heated by the Effervescency newly describ'd in the Right Ventricle of the Heart, because a more evident Heat is observd in the Universal Body, and especially in the Heart of those living Creatures that have Lungs, and therefore a double Ventricle in the Heart; which that it is allayd and temperd by the Air Inspired, is evident by inconveniences following the Air that is less fit to moderate it.

2. As I do not deny that this is, so I judg the Air inspired does chiefly conduce again to *condense the Blood much raref'd* in the Right Ventricle of the Heart.

3. But how, or after what manner and way the Inspired Air alters the Blood to both these ends, is not so manifest. I think it is, in as much as the *Nitrous and somewhat Acid parts are dispers'd in the Air*, that are able to condense the hot and raref'd Blood, and mildly lay its heat.

4. I distinguish between the Somewhat-acid and Nitrous parts of the Air; seeing that the *more or less Acid* is more simple, and the *Nitrous* more compounded, to wit, of *Acids*, but not any, but such as are also *Oily*, joind with a *lixiviat Salt*; which the artificial, that is, Chymical Solution and Composition of Nitre makes manifest.

5. That

5. That manifold parts *lie in the Air*, not only *Watry, Fiery, and Earthy*, but also *Oily, Spiritous, Lixivial and Acid Salts*, divers ways more or less mixt with all of these, the many Experiments not unknown to sedulous Searchers of Chymical Changes do evince, although most abstruse to Lazy Counterfeit Philosophers every-where, and prating Cavillers; which sometimes, if the Matter require, we intend to publish, for their sakes who are good and addicted to one Truth, with many others out of our own Observations, as yet unpublished, by the blessing of God, plenteous enough, though our Adversaries snarle at it.

6. This *Tempering* to be made in the Lungs no less useful, than necessary by Air Inspired is *Deprav'd*, either when there is *None*, or *too Little*, or sometimes *too Much*.

7. There is *no Tempering of the Blood*, when very hot and quiet Air is the cause; whence a Man often falls into a *grievous Swelling*, or *Death* it self; The Blood being highly raref'd and fluid, and therefore overwhelming and suffocating its internal Fire, for want of the newly mentiond Nitrous or Acid parts.

8. The Blood is *more sparingly temperd* by the Air Inspired, with the same Cause but lighter, when the *Sour and Nitrous Parts* are fewer or more *sluggish*; at least fewer are *suckt in* by Inspiration, than were desired to temper equally the present and urging heat, and rarefaction of Blood.

9. Fewer Parts of *Acid or Nitrous Air* are drawn in, because of *Inspiration* it self *bindred*, which is to be explaind in the next following Chapter.

10. The *Nitrous or Acid parts* are *too Few* or *Sluggish* in the Air by very great *Heat* or *Moisture* in it; a Sign whereof moreover, if not also a Cause, is usually a great Calm of Air.

11. The

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11. The Oily parts of the Air rarefie potently, but the Salt and Sowr are allayd and become too sluggish by the Beams of the Sun, both Fiery and Spiritous, the most frequent cause of the hot Air; as being dissolv'd by watry or rainy Moisture, they are weakned; whence no wonder if such being suck'd in, are less fit to temper the heat of the Blood.

12. The use of *Bellows* so very useful in moderating the heat of the Air by a mild agitation, evinceth the *quiet Air* to be less fit to temper the Blood, than when it is but a little mov'd.

13. As it is evident that Cold is produc'd by any Wind, or by the motion of the Bellows from the Sense of Cold in the external parts receiving the Air so mov'd; which I judg is partly by the discussion of the Fiery Parts collected about us, the heat of the Air urging, and therefore producing a greater heat in us; partly by the bringing together and gathering of the Nitrous and Acid Parts, first either broken, or driven away every whither and remov'd from each other by the fiery Parts; at least by more plenty and efficacy of those fiery less perceived by Sense.

14. The Blood carrid through the Lungs, is too much Temper'd, that is, *Condens'd and Cools'd* by the Air Inspir'd, when the Nitrous or Acid parts abound in the Air, by which often especially in the Winter-Season, the North Wind blowing, and in the Regions near the cold Zone, and chiefly when the Universal Body was first too hot, then Blood is so coagulated in the Lungs, that it begets an *Obstruction* in its Vessels, or middle windings of the Lungs; whence follows always a *Stoppage of Blood* it self, and sometimes a *Bursting of the Vessels* by their Distension, and an *Effusion of Blood*, together with a *Peripneumonie* encreas'd by the Blood continually flowing to it; and
after

after the Apoplemie is open'd, a *Consumption* of the Lungs call'd *Phthisis*, and afterward for the most part *Death*.

15. The *Tempering of Blood* in the Lungs *Abolish* and *Diminish*, may be *Cur'd*, by changing the very *Hot Air* with *Cold*, whether *Natural* or *Artificial*. For such Air Caves and Cellars under ground, not seldom Nitrous are wont to contain. Such do we make by Art by diluting Nitre, or Salt Armoniac in Water, and presently pouring it out on the Chamber-floor; or by sprinkling sharp Vinegar alone, or mixt in like manner with Water; or in like manner casting fowrish Plants, or their Leaves and Flowers in the Chambers, by the help of all which we encrease Sowr and Nitrous Parts in the Air.

16. The great *Calm of Air* by the Winds quite laid is artificially to be *stir'd* by *Bellows*, or any other way *stirring up the Wind*.

17. The *moisture of Cloudy Air* is corrected, by making a *clear Fire* with Wood.

18. The following Chapter will teach how *Respiration* hindred may be *Cur'd*.

19. The too great *Condensation*, and *Cooling of Blood* carri'd through the Lungs, may be *Cur'd*, by changing the over-sharp and cold Air, for hotter and more calm; and by kindling in a fit Chamber, Fires great enough; and by using Medicins, that allay the Nitrous and Acid parts of Air admitted.

20. How to Cure the other harms following this chill Air Inspir'd, and before mention'd, shall be shown beneath in *Chap. 40.* where expressly shall be handled of an *Inflammation*.

CHAP. XXII.

Of the Inspiration of Air Deprav'd.

1. **WE** said in the former Chapter, that the Air was both Inspir'd, and also Expir'd mildly to condense, and cool the Blood waxing hot out of the Right Ventricle of the Heart, and driven forward through the Lungs to the Left Ventricle.

2. This *Inspiration of Air* happens, as often as at the expanding of the Midriff downward, and elevating the Thorax upward, the Lungs adjoind to both are together dilated; as we judg we have proved it abundantly in many things in Our Eighth Physical Disputation.

3. The same Inspiration of Air is Deprav'd;
1. When it *Ceases*, or is *Abolish'd*. 2. When it is *not sufficient*, and therefore is *too Frequent*. 3. When it is with pain and *Difficulty*.

4. I. The *Inspiration of Air* is said by me to *Cease*, when there is no need thereof; which happens both in the *Syncope*, and in some kinds of *Hypochondriac Suffocation*; in which a Man sometimes may want all Respiration, at least manifest to Sense for a notable time, (to wit, whole dayes without the change of Life with Death) of which only true Physicians are wont to speak, judging by what is observ'd by Sense, yielding the Imaginary Respiration to imagining Doctors.

5. But then there is no necessity of Inspired Air, because there is no notable Burning of Blood rais'd in the Right Ventricle of the Heart, there happening no notable Rarefaction of the same; wherefore the
Blood

Blood having no heat there needs no Tempering, its desired Rarefaction no condensing; but the Ventricles of the Heart are not very much expanded, or otherwise provok'd to contract it self in such a Disease; whence *the Pulse* then is *Deficient* to Sense of necessity. Of which see also *Chap. 19. Sect. 14, &c.*

6. The same *Inspiration of Air* is said by me to be *Abolisht*; when *its need of being inspir'd* doth urge, there being a notable Effervescency and Rarefaction of Blood in the Right Ventricle of the Heart, the Pulse remaining great and strong enough, though for a short space, yet *the Inspiration it self Ceases*, and is suddenly taken away, in the forementiond Suffocation or Strangulation.

7. The Inspiration of Air so necessary to Life being full of motion is *Abolisht*, either by the fault of the *Thorax* and *Midrif*, or of the *Lungs* and *Waies*.

8. I think that Inspiration cannot be *Abolisht* by the fault of the *Breast*, or *Midrif* alone, although when both are deficient together in their Motion, nothing hinders but that it may be.

9. They are *Deficient* together in their Motion, when all the parts are destitute of the Animal Spirits, and hence of Sense and Motion in the most grievous *Apoplexie*, whence Death succedes certainly and suddenly.

10. The Inspiration of Air may be *Abolisht* by the fault of the *Lungs*, when the *sharp Arterie* is straitned after any extreme manner.

11. The Inspiration of Air may be *Abolisht* by the fault of the *Waies* tending to the Lungs, when either the *Mouth* and *Nostrils* together are quite *stopt*, or the *Throat* is *obstructed* or *compress'd* exceedingly, in the *Suffocating Catarrh* so call'd, the *Squinsie*, *Strangulation*, &c.

12. The

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12. *The Inspiration of Air is not sufficient, and therefore also Frequent; Both, 1. by the fault of the Blood carri'd through the Lungs; and, 2. of the Brest; and 3. of the Midrif; and, 4. of the Lungs; and, 5. their Waies.*

13. 1. *This happens by the fault of Blood carri'd through the Lungs, as often as it being too much Kindled and Raref'd in the Heart, cannot be enough temper'd by the Air, inspir'd in its wonted quantity and manner; but requires more of it than is usual; wherefore, the Expansion of the Brest and Midrif is both Greater, and especially more Frequent to help that defect, and that more Air may be inspir'd; seeing that it is more easily hastned then augmented; add that an often iterated Inspiration of a little external Air, is more convenient to temper continually the Blood too much raising an Effervescency, than too great plenty of it coming more seldom.*

14. 2. *The Inspiration of Air is not sufficient, and therefore too Frequent by the fault of the Brest, when it cannot be lifted up, and expanded enough, and as much as ought, both because of the Gristles of the Brest too much hardned, and especially because of a Pleurisie hindring the Dilatation of the Brest, by reason of the Pain accompanying.*

15. 3. *The Inspiration of Air is not Sufficient, and therefore too frequent by the fault of the Midrif, either when it cannot conveniently be stir'd up in its double and reciprocal Motion, because of its proper Disease, especially an Inflammation, or when it cannot be enough expanded downward by want of space in the Belly, and other Impediments there; as it usually falls out in a grievous Dropsie call'd Ascites, or when the Child lies high in the Womb, the Stomach or Guts distended with Wind, &c.*

16. 4. The Inspiration of Air is not Sufficient, and therefore too frequent by fault of the Lungs, when their Universal Substance, or at least the most part is too little spongie, and too small, or they are troubled with a Peripneumonie, or urg'd only with a moderate Straitness of the notable Branches of the Sharp Arterie.

17. The Substance of the Lungs is too little, Spungie, as often as it is too Flethy and Solid, such as I have often found in the Dissecting of several after Death; or also wrinkled, such as have been sometime in like manner observ'd by me: although I think it very hard, if not impossible to render the adequate Cause of this Disease; yet I conjecture that the Substance of the Lungs becomes too Flethy and Solid, as often as it is both lightly fretted, and again consolidated and nourished so, that by degrees its Flesh becomes more solid by the too sharp, together with the too viscous Blood in the middle part between the Arteries and Veins.

18. I refer the Wrinkling of its Substance to be taken from the over-Tart and Sharp Blood rather potently contracting, than truly nourishing it there lightly fretted; unless perhaps it happen by Matter or Water likewise tart, gatherd in the Cavity of the Brest, and by degrees piercing and binding it.

19. 5. The Inspiration becomes more Frequent, because not Sufficient, by the fault of the Waies granting passage for the Air to the Lungs, when the N-
trils only are more or less stop't, both continually in an Hurt, or by Chance, &c. commonly inbred, or by an external Cause, often accidental, the harm being adventitious and permanent, and often by spaces in a Disease that troubles sometimes more, other-times less, as in the Stuffing of the Head, a Polypus, &c.

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and sometimes by *External Things put up* the Nostrils, whence the Inspiration of Air is then to be made with open Mouth; which will therefore be more hindred, and so more frequent; and yet more, if the Sick be to speak or walk for a space; especially if he must hasten.

20. The same may hap, if the *Entrance of the Throat be more or less stoppt with thick and viscons Pblegm*, or the *Tonsills be Inflamed*, or otherwise *Swelld*, and stop up the way at least in part of the Air to be Inspired, in which Disease a more frequent Inspiration is observd, whether it procede from a Straitness of the Waies alone, or the Trouble come (which to me is most probable) by the over-cold Air too plenteously suckt in at once; to shun which, a more frequent and also less Inspiration may be orderd.

21. III. *The Inspiration of Air which is with Difficulty*, is generally call'd *Dyspnea*; the chief kinds whereof are an *Hard Breathing*, *Orthopnea*, *Asthma*, *Incubus*, and *Hypochondriac Suffocation*, joind with the Fear or Sense of *Strangling*: To which we may add an *Interrupted and Hindred Inspiration* in the *Hicket*, *Sighing*, and pricking pains of the *Pleurisie*.

22. In a simple *Hard Breathing*, the Inspiration is wont to be little and also quick; but in an *Orthopnea* less quick and much greater, and indeed with the Neck streight, and stretcht forth; as in an *Asthma* there is observd, besides a *more difficult Inspiration* proceeding *with Labour*, a *Wheezing* or *Snoring* in the Brest, together with a *Cough*, in which often something is spitted out, often nothing; with the Night-Mare to them only that sleep, and especially on their Backs, a *Dream of weight pressing the Midriff*, and threatening

a Suffocation is join'd; whence Melancholic People are often wont to dote wonderful things to themselves, of a certain or uncertain Person hated. The Jaws are so streind in the *Hypochondriac Suffocation* depraving Inspiration, (more commonly befalling People awake than asleep) that the Sick think themselves in danger of Strangulation.

23. In an *Hicket*, Inspiration is interrupted by uncertain and unequal Intervals, by reason of the Convulsive Motion of the Midriff, sometimes more, other-times less; which suffers a continued though lesser Interruption, joind with oftness whilst *Sighs* do urge; as in a *Pleurisie* it is chiefly interrupted, as often as the Feverish Heat urging more, there is an endeavour of more Breath.

24. Every *Dyspnea* is stirrd up, both for the most part by *Wind*, or *Vapors* produc'd in the Small Gut by Phlegm rarefi'd by Choler, and rising up partly through the Stomach and Gullet to the Mouth, hence perhaps piercing farther into the *Pipes of the Lungs*, with the inspired Air; and partly, being carrid plenteously through the Lacteal Veins, and Passage of the Thorax to the upper Hollow Vein, hence the Right Ventricle of the Heart; lastly, the *Vessels of the Lungs*, and their spongie Substance it self, stick there, and so hindring their explication no less requisite than complication, thence strangely and sorely vexing the Sick; and sometimes by viscus Pblegm falling down out of the Head, and seizing on the *Pipes of the Lungs*, and producing a divers narrowness in them. Whence according to the simplicity or complication of these Causes, and so a greater or less harm, sundry kinds of the *Dyspnea* do arise, and sometimes less, other-times greater.

25. In the *Asthma* and *Orthopnea* for the most part

both Causes concur, although in the *Asthma*, which is call'd *Hidden, Vapors or Wind* only seems (in my thoughts) to molest; and that the same do effect all in the *Hard Breathing, and Hypochondriac Strangulation*, whosoever attentively examines, and weighs all the Symptoms then befalling the Sick will easily acknowledge.

26. We intend to give you the *Breeding, and Cure* of the *Hicket, Sighs, and the Pleurisie*, in the next and 40th Chapter.

27. I. We have related something of the *Cure of the Syncope*, and the most grievous kinds of *Hypochondriac Suffocation*, in Chap. 19. Sect. 70, &c. which may there be seen.

28. *The Inspiration of Air Abolish'd*, the *Breast and Midriff* being deficient together in their Motion, by the defect of the Animal Spirits in the most grievous *Apoplexie*, is *Incurable*, because any impediment cannot be soon enough taken away, by which the rising of the Nerves is so compress'd, that Passage for the Animal Spirits through Them to the lower parts is deny'd.

29. *The Inspiration of Air Abolish'd*, because the *Sharp Arterie* is much straitned, may be esteem'd for *Incurable*, unless the Blood, Matter, Phlegm, or any other thing which fills it, be soon expell'd with strong Expiration; or the Band that straitens it in its *Strangulation* be taken away.

30. The same *Inspiration Abolish'd*, the *Mouth, and Nostrils* being both stop'd, may be *Cur'd*, by taking away forth-with the Causes stopping, lest otherwise Death follow in a short while.

31. So the *Inspiration of Air Abolish'd* by an *Obstruction of the Jaws*, and chiefly of the *Throat*, may be *Cur'd*, by speedily removing any Cause of an *Obstruction*,

struction, either by drawing it out, or by forcing it into the Gullet, and hence to the Stomach.

32. The same may be Cur'd, there being an extreme Straitness of the Throat because of the *Squinsie* molesting, by curing ~~the~~ *Squinsie* any way, by letting of Blood in the Limbs to turn it away, and under the Tongue to draw it forth, and by Cataplasms and Gargarisms, both of a potently Cutting, Ripening Faculty, and such-like.

33. If the Inspiration of Air be Abolish'd by the compression of the Throat by an Halter, it may be Cur'd if the Halter be loos'd or cut in time.

34. II. *The over-Frequent Inspiration of Air;*

1. Because of the *increas'd Kindling and Rarefaction of Blood* in the Heart may be Cur'd, that Heat being allaid, as well by Letting Blood, as by temperat Acids, or Salt Nitre, either pure, or after it has been fir'd by the help of Sulphur into the Salt, or Stone call'd *Prunella*.

35. 2. *The Inspiration of Air not sufficient*, and therefore *too Frequent*, arising by the hindred due explication of the Brest, the Gristles being of a bony hardness, and so inflexible, cannot be Cur'd, unless by softning the Gristles; which what Medicines can perform, is known as yet but to a few; although there have been some, who have even softned any Bones, bow'd them variously, and again have hardned them according to their pleasure, which is admirable.

36. *The Cure of an Hindred and over-Frequent Inspiration*, because of the *Pain of the Pleurisie* follows the Cure of the Pleurisie, to be had in the general Method of Curing any Inflammation, of which see *Chap. 40*.

37. 3. *The Inspiration of Air too Frequent and*
M 3 *hindred,*

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bindred, following an *Inflammation of the Midrif*, may be Cur'd, that being cur'd according to the fore-cited general Method.

38. The same Inspiration hindred, because the *Midrif is hindred in its expansion, may be Cur'd*, in the Droplie call'd *Ascites*, by emptying Water out of the Cavity of the Belly any way; when the *Woman is with Child*, by sending out the Birth; in the *Tympanie*, when the Stomach or Guts are distended with Wind, by thrusting them forth, or by their own ceasing.

39. 4. *The Inspiration of Air not Sufficient and too frequent*, following the *Substance of the Lungs*, either made *too Fleshy and Solid*, or *Wrinkled*, is by me esteem'd *Incurable*.

40. The same caus'd by a *Peripneumonie*, may be Cur'd, it being Cur'd after the manner of other Inflammations.

41. The same when to be ascrib'd to a *mean straitness of the notable Branches of the Sharp Arterie*, may be Cur'd, the Cause of that Straitness being taken away; sometimes Internal filling its Branches more or less, sometimes External, and sticking in the substance of the Lungs and compressing them; of which in general we must speak elsewhere.

42. Here you may observe, as often as the *Sharp Arterie* is stoppt with *Pblegm*, whether fluid, or viscous, or sharp, or mild, or with *Blood* clotted or dissolv'd, or with *Putresc'd Matter* thick or thin; or sometimes in those that are duckt in the *Water*, piercing into the Lungs, so often the Cure may be begun and promoted, sometimes only by letting out the *Water* receiv'd in, more often by a Cough stirr'd up by what is contain'd in them; whose expulsion sometimes either those things that Cut, or Thicken may help,
being

being vari'd according to the variety of what is to be thrown forth, often to be taken in a mean quantity.

43. You may also observe, that here a *Vomit* is sometimes commodiously enough ordain'd, seeing Experience confirms that the Expelling of what is contain'd in the Sharp Arterie, is also promoted by a vehement endeavour of Vomiting; except in the *Spitting Blood*, in which alwaies a Vomit is dangerous.

44. 5. An *Inbred* and stubborn harm, either at Birth, or after Birth, *risen by chance* possessing the *Nostrils*, and *hindring Inspiration*, a straitness being made there, compelling it to be *more Frequent*, is *seldom* wont to be *Cur'd*, because it is an hard thing to take away an old Growing together, or Obstruction of those Parts.

45. The same Inspiration hindred because of a *Stuffing in the Head*, or a *Polypus*, is wont of its own accord to return to its perfectness after these are *Cur'd*.

46. As often as Inspiration is hindred by any kind of *Things put up into the Nostrils* and stopping them, so often it is again finish'd, those being drawn forth.

47. Inspiration hindred by *viscous Phlegm stopping the Entrance of the Throat*, may be *Cur'd* by Gargarising, the Phlegm being remov'd and spit out.

48. The *Inflammations of the Tonsils*, or *Greater Tumors*, are to be *Cur'd*, partly by the general Method, partly by Gargarisms, before that Inspiration thereby hindred can be restor'd.

49. III. A *Dyspnea* arising from *Wind or Vapors*, produc'd by *Choler*, from *Phlegm in the Small Gut*, may be *Cur'd*; 1. By *Amending Phlegm* peccant in any *Quality*, and by *Emptying* it when too much in *Quantity*, by Remedies often forecited.

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50. 2. In like manner by *Correcting Cholera*, if peccant in any Quality, or by *Evacuating it*, if abounding, by Medicins often propos'd.

51. 3. By *Dissipating* or carrying out *Wind* or *Vapors* by Stool, with the help of *Carminative Clysters* so call'd, or by excluding them upward in the form of Belches, before they pierce into the Lacteal Veins, by Remedies sometimes already prescrib'd.

52. 4. By *Discussing the same* more potently, and also driving them out together with a *mild Sweat*, as soon as ever they have pierc'd to the Lungs, and stick in them; and that by the often mentiond Aromatic Sudorifics.

53. A *Dyspnea* coming from *viscous Phlegm* falling down out of the Head into the Jaws, and *passing into the Pipes of the Lungs*, may be Cur'd; 1. By *Hindring its coming into the Head* by any Aromatic Medicins, Rosemary, Sage, &c. so often minded before, and often to be us'd daily at any time in a little Dose.

54. 2. Both by *Cutting*, and *Attenuating it gathered in the Head*, by the same Aromatics, and by *Carrying it out*, both by Stool by means of *Phlegmagogues* often propos'd; and also through the Nostrils, with the help of things that promote Sneezing; and also through the Mouth, by the means of Medicins to be Chew'd.

55. 3. By *Cutting the same carri'd into the Lungs* by the newly nam'd Aromatics, and if there be a Cough by *spitting it out* by Aromatic Bechies also contain'd in the Mouth, and exceding slowly swallow'd, whereby some part of them may pierce to the Lungs.

56. As those Medicins are to be alwaies prefer'd before others of the same Kind and Nature, which
are

are noted by the long experience of many to be more special and useful for any Disease; so also here are they to be chosen before other Aromatics, which both others, and their own Observations have shewn to be more convenient for every kind of a *Dyspnæa*: Neither must we pass by the singular Constitution of every Sick Person; seeing that according to it, we may daily experience that there is choice to be had of Medicines otherwise excelling in the same Disease; which none that is well vers'd in Practice, and attent to those things, which daily happen diversly, will ever deny.

CHAP. XXIII.

Of the Expiration of Air Deprav'd.

1. **T**HE Air attracted into the Lungs by Inspiration, after it has done its Office, ought to be again put forth, whereby a place may be gotten for other succeeding Air, and this exclusion of Air is call'd, *Expiration*.

2. This *Expiration* is chiefly *Perfected* by the *Muscles of the Belly*, both *drawing down the Thorax*, and *compressing* all that was *contain'd* in the Belly, and *driving them forward towards the Midriff*, and so *compelling the Midriff upward*, and consequently by *mild'y pressing out the Air contain'd in them by straitning the Lungs*; the *proper Motion of the Midriff together concurring*, making a greater *straitness* in the *Breast*.

3. This *Expiration of Air is Deprav'd*; 1. In *Sneezing*, wherein after some stay of Inspiration begun,

gun, the *Air* is at once put forth suddenly, and with a great force, though suddenly ceasing, or by abrupt force chiefly through the *Nostrils*, and sometimes the *Mouth* also with a vehement Concussion of the Universal Body, and exclusion of those things that are in the way.

4. The same Expiration of Air is Deprav'd;
2. In a *Cough*; in which the sending forth of Air, and what is Containd in the Sharp Arterie, in and through the Mouth, (if any thing be there and follow it) is not at once, but at many also and interrupted times, with a different concussion of the Body, one time mild, another time vehement.

5. Every *Cough* is either call'd *Moist*, when by its help the Humors containd in the Sharp Arterie, as Phlegm, Blood, Matter, &c. are afterward to be brought up into the Mouth, or are expell'd out through the Mouth.

6. Or *Dry*, when nothing is spit out, though with great and much labour, but the Universal Body is wear'd in vain with endeavouring to *Cough*; whence there is sometimes rais'd a vehement Pain both of the Head, and *Hypochondries*, and of other Parts, yea, sometimes a *Rupture* is bred by it, sometimes the *Urine* or *Excrements* are unvoluntarily extruded.

7. 3. The same Expiration is deprav'd in an *Hicket*, in which the Region of the Stomach is observ'd to be suddenly and violently driven forward, and outward, that Motion truly *Convulsive*, soon ceasing, and again often repeting, and so then the most troublesome and grievous Symptom to the Sick.

8. I judg the *Midrif* is affected in an *Hicket* in that part of its Motion, wherewith it serves for *Expiration*; and in which it is perceiv'd (by Touching no less than Seeing in the opend Belly of Brutes

still

still living) to be contracted with a force great enough towards the Region of the Stomach.

9. Wherefore I judg the *Hicket* to be the proper Disease of the *Midrif*, and in no wise of the Stomach, seeing that besides what is already said, it may be *Voluntary*, and can be stir'd up by Me, and others at any time as we please.

10. Yet will I not deny that the *Midrif* is for the most part drawn into consent to make an *Hicket* by the Stomach first affected, and especially by *Sharp Vapors, or Wind, or Humors*, whencesoever proceeding, and piercing what way soever to the Membranous Centre of the *Midrif*, and provoking it by *pricking, or corroding*, to perform that Convulsive Motion.

11. Therefore I judg the *true Cause of the Hicket* to be, whatsoever is apt to compel the *Midrif* to a violent, but not continu'd, and presently interrupted, or ceasing, and again often a repeating Contraction of it self; whether it be found in the Stomach, (to which hurtful and sharp Medicins or Food, rather to be call'd Poison, are to be refer'd) or the same rise up out of the small Gut by the Vicious Effervescency of the Humors meeting rais'd in the form of an Humor, Vapor, or Wind, and so affect the upper Orifice of the Stomach, especially by corroding, that the *Midrif* encompassing it is also affected; or the same being shut up in the Cavity of the Thorax, or Belly immediately frets the *Midrif*, or is carri'd to it through its Vessels, and sticking in its Substance, corrodes its sensible parts, or compells it any other way, to that troublesome, and convulsive, solitary, and moreover continually repeating contraction of it self.

12. If any shall observe both the external and internal

ternal evident Causes of Sneezing, he will find it is rais'd, one while by the *brightness of the Sun shining*, either immediately, or from the Snow, Ice, Water, a Looking-Glass, &c. by means of reflection; other-times by *sharp things*, to wit, Onions, Mustard, Radish, &c. or by things mov'd or drawn to the Nostrils, or taken in at the Mouth; other-times also by *Sharp Humors* falling down from the Head to the Nostrils in a Stuffing of the Head, or Snuffle of the Nose; or from *Vapors* or *Rists*, likewise sharp ascending out of the *Stomach* or *Small Gut*, and provoking the Nostrils, so that there is always felt a *pulling of the Nostrils* of what kind soever: Whence all these divers Causes do deservedly seem so far to produce a Sneezing, in as much as they move the Nostrils, those parts ascrib'd to Expiration by provoking, and pulling them to expel that trouble, the Air together being potently expir'd through the Nostrils, with which vehement Excussion of the Air, a vehement Shaking also of the Universal Body uses to concur.

13. The Cause of a Cough is, whatsoever can pull the Sharp Arterie of the Lungs, or any way provoke and molest it.

14. And indeed the Cause of a Moist Cough is observ'd to be manifold; for sometimes certain things coming from without, or taken in at the Mouth, and being wrong carri'd into the Sharp Arterie, do soon raise a troublesome Cough: At other-times the Humors (and for the most part Phlegmatic of several kinds, either Sharp, and Salt, or Sour; or Mild, and Insipid; other-whiles thin and fluid, or thick and viscous; sometimes Blood pure, or mixt with other Humors; and sometimes Purulent Matter) falling down from the Head, and piercing into the same
Sharp

Sharp Arterie, do compel the Lungs to Cough: Again, *Humors* likewise Various, (Blood, Purulent Matter, and perhaps *Pblegm*, or a *Serous Humor*) carri'd out of the *Substance*, or *Vessels of the Lungs* into the same Arterie, do breed a Cough.

15. As often as Blood coming out of the Lungs is sent forth with a Cough, so often this Disease is call'd a *Spitting of Blood*, and *Hæmoptoic Passion*.

16. A *Dry Cough* has for its *External Causes*, both cold Air, and Drink receiv'd largely, and troubling the Sharp Arterie: but for *Internals*, sometimes a very viscous or very thin and sharp *Catarrh*, scarce yielding to the Air that is vehemently expir'd; sometimes *Vapors* or *Wind* elevated from the small Gut, and Ventricle, through the *Gullet*, and suckt into the Lungs together with the Air; or insinuating themselves from the same Gut, through the *Lacteal Veins*, into the Heart & Vessels of the Lungs; yea, their Substance, even to the Sharp Arterie, and provoking it continually to Cough without excluding it self.

17. The manifold Diseases noted in *Expiration Deprav'd*, may be Cur'd; 1. By taking away, or correcting their *External Cause*. 2. By curing any *Internal Diseases of the Solid Parts*. 3. By Amending any Harms of the Parts Contain'd; and also by diminishing their *Abundance*, and by Correcting their vitious Qualities; and by removing out of place, or moving out those that are peccant in place, &c.

18. And that we may begin at the *Hicket*, as often as hurtful and sharp Food, or Medicins, or rather Poison are in the Stomach, unless they can be temper'd and corrected by those that Alter, they are to be Expell'd, either by a *Vomit* upward the shorter way, or by a *Purge* downward the longer way; which is also to be understood of any *Humors* found in the Stomach,

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mach, or Small Gut, and causing, the Hicket.

19. We have often before propos'd Medicins that *Alter* and *Correſt* the Humors, as alſo any thing taken in what way ſoever peccant, ſo that it ſeems not neceſſary to repete them here again; we only admoniſh you this one thing, That *Opiats* do conduce before all other things in curing any Hicket; not only in as much as they temper any ſharp Humors, but moreover in as much as they blunt the Senſe of the Stomach, and perhaps alſo make the Animal Spirits more ſlow of Motion; if they be us'd by times in a ſmall quantity, and ſo long, till the Hicket either ceases, or is notably diminisht.

20. Among *Vomits*, I here prefer *Antimonials* before all others, both becauſe they do moſt happily empty any Humors promiſcuouſly, and becauſe they are moſt friendly to Mans Nature, by degrees bringing all the Humors in Man after a peculiar manner, to a moſt laudable ſtate; which power I doubt whether it be in other things likewiſe, but know it is in Antimonie; whatſoever Men blinded with their Prejudices prate to the contrary, both otherwiſe Learned and Unlearned.

21. But beware leſt they be together taken in too great quantity, ſeeing indeed *every Exceſs is an Enemy to Nature*; and it is always ſafer that they be given in a leſs than in a greater Doſe, for no harm will at any time follow the firſt, though often the latter: for (notwithſtanding the Opinion of many Pretenders, as well as Unſkilful Phyſicians) neither do other Purgers, and eſpecially Antimonials rightly prepar'd, and us'd in a leſs quantity, and emptying no Humer upward or downward hurt any, which I having very many times experienc'd do teſtifie; but they always then are profitable, either by amending
the

the hurtful Humors in the Body, or by preparing them farther for the following Purge; which I would chiefly have noted by Younger Physicians, for whose sakes this my little Treatise is publish'd, and not for the Elder, who are vers'd in the Works of Art, and therefore need not my Information; much less for the obstinate, rejecting any thing of an other Mans by Prejudice or Envy, and no less unskillfully, than wickedly carping at them.

22. When therefore after *Narcotics* are first conveniently us'd, a Vomit has been taken, and little or nothing is cast out upward or downward; and the Hicket still urges, and signs of the Humors remaining in the Stomach, or next Gut, railing this Evil do remain, then you may safely give the Sick a new Vomit either the same day, and then in less quantity, or another in the next in a somewhat greater quantity, whereby the peccant Humors will be more corrected, or expell'd upward or downward, or both ways: For so the truly Rational and Dogmatic Cure of the Hicket will be most safely, and no wise unpleasantly, and soon enough absolv'd, chiefly leaning on Experience, and hence Sound Reason, not Weak or Com-mentitious, and so false.

23. If the Vicious Humors be voided by the Vomit taken, and the Sick be wear'd by vomiting, an Aromatical Mixture may conduce, as being most convenient to dissipate the molesting Vapors sticking about the Stomach, together with *Opiats* added in a small quantity, and the most apt to assuage the stirr'd up too potent Effervescency of Choler, and and the Juice of the Pancreas by Vomiting, and to procure Sleep mildly, and to stay the Hicket more. For Example;

R. Mint-

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Rx. *Mint-Water* \bar{z} ii. *Matthiolum bis Aqua Vite*, or
Simple Treacle-Water \bar{z} li. *Confection of Alker-*
mes \bar{z} i. *Laudanum* 2 Grains. *Syrup of Mint*
 \bar{z} i. M.

Let the Sick often take a Spoonful of this Mixture, till he find his Body dispos'd to Sleep; which that he may the sooner take, let him lie down commodiously.

24. To this Mixture may be added *Sp. of Nitre* fix or eight drops, as often as *Wind* also molests, which often happens.

25. If the Sick do less incline to Vomit, and be not troubled with Loathing, it is better that the *Humors peccant be Empti'd downward*, and that according to their Variety, sometimes with *Cholagogues*, other-times with *Pblegmagogues*, or *Hydragogues* only; or at other-times with several of these mixt together as the Matter requires, as is set down before.

26. And because all *Obstinat Diseases* have their rising from *over-Viscous Humors*, at least acknowledg them to be conjoind to their Cause, therefore in an *Obstinat Hicket*, the Medicins that both cut and educe viscous Humors are not to be neglected. To which end our *Magisterial Pills*, describ'd before in *Chap. 14. Sect. 50.* as also the *Decoction* propos'd in *Chap. 2. Sect. 35.* may conduce. But there is no need, that such should be daily us'd, unless they educe little; for where they cause many Dejections, it is safer, that they be taken only in the third or fourth day, and only such as cut and correct the Humors any way peccant, and discuss Vapors and Wind, or otherwise such as are Corroborating, often mentiond, should be us'd in the days between.

27. When the Hicket is the Symptom of any other

other grievous Diseases, an Acute Fever, Inflammation, &c. it is wont to remit of its own accord when they are cur'd; although then nothing hinders that *Opiats* being added, and moreover taken with *Sudorifics*, or any kind of altering Medicins, and appropriated to correct the Primary Disease, or the vitious Humor, may be us'd together: By which if a mild Sweat should be promoted, and the other Symptoms together with the Hicket be diminish'd, we may hope well of restoring the Sick; but if not, then ill.

28. *Sneezing*, which takes its rising from External Causes, is soon wont to cease when those are taken away, or shund: But that which acknowledgeth Internal Causes, both sliding down from the Brain, and rising up from the nether parts, may be Cur'd, both by *Correcting the Sourly-Salt Humors in the Stuffing of the Head*, and *Viscous Phlegmatic Humors* for the most part joind with them, both by *Oily and Spiritous Aromatics*; and by *Educing* them, partly by *Stool*, by *Hydragogues* and *Pblegmagogues*; partly through the *Nostrils* or *Mouth* by mild *Sneezers* or *Masticatories*, and by *Correcting the Humors* that raise a vitious *Effervescency* in the *Stomach*, and chiefly in the *small Gut*, and *driving sharp Vapors* upward to the *Nostrils*, by the foremention'd *Spiritous* and *Oily Medicins*, not neglecting or omitting *Opiats*; and by *Educing* the same downward rather than upward if they abound, by Medicins often propos'd. Where *Sudorifics* use to avail very much, which not only thrust out, but together amend the Vitious Humors.

29. A *Cough* may be diversly Cur'd according to the diversity of its Cause. For when any thing is let in from without and carri'd into the Sharp Arteries

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of the Lungs, and is either put forth again by Coughing only, or being mitigated with a little Beer Drunk upon it, the Cough soon ceases, or at least is by little and little allaid.

30. The *Pblegmatic Humors* falling down from the Head into the forenam'd Arterie, require for their *Correclion*, if *Sowr*, Crabs-Eyes, Coral, Pearl, &c. If *Salt*, Gum Dragon and Arabic, the Roots of Marsh-Mallows, and Sugar thereof, Licorice-Root, and its thickned Juice; the Pills of Hounds-Tongue, or of *Styrax* prescrib'd in *Chap. 20. Sect. 36.* or the Troches in *Sect. 37.*

31. *Pblegmatic Humors* in no wise Sharp but Insipid, if they be both *Thin* and *Watry*, need the same Pills and Troches to Correct and Thicken them.

32. If they be *Thick* and *Viscous*, they require both *Sowrish-Sweet* things, and *Aromatics*, simple Oximel, and that of Squils, adding the Syrup of Hyssop, of the two, and five opening Roots, and such-like to Attenuate and Cut them, whether they be swallowd slowly after the manner of a Loch, or they be us'd by Spoonfuls, diluted with Aromatic Waters.

33. The same manifold *Pblegmatic Humors* in the Blood, at least in the Head, when abounding, are to be Diminish'd by *Hydragogues* and *Pblegmagogues*, and sometimes *Diuretics* and *Sudorifics*: yea, sometimes we must have recourse to *Salivation* it self, which may be stir'd up divers ways.

34. *Blood* carri'd down from the Head into the Lungs, and raising a Cough, is to be stopt in its Efflux, by *Opening a Vein*, if a *Plethora* concur, or a notable Heat of Blood, or a *Suppression* of its wonted Emptying: Although its over-great Heat may also be allaid with things Sowr, and especially a little Tart.

Tart. For Example, take this following Decoction ;

Rx. *Plantane-Leaves* M. ii. *Sempervive the Greater, Wood-Sorrel-Leaves, of each* M i. Boil them in *Barley-Water*, adding to ʒ xx. of what is Straind, *Syr. of Jujubs* ʒ iii. *Salt Nitre purifi'd* ʒ i. or *Lapis Prunelle* ʒ ss. or *Sp. of Nitre* 20 drops. M. for a Decoction.

Let the Sick take often a mean Draught of this to allay any over-great heat of Blood, and hence any bursting forth of Blood that may follow.

35. The same Blood is to be stop't in its Flux by *Conglutinating the open'd Vessels* by the Mixture prescrib'd in Chap. 9. Sect. 20. (or one like it) often mention'd before.

36. *The Corruption of Blood into Purulent Matter*, is to be prevented all manner of ways, and especially by the *Balsam of Sulphur with Anise-Oil*, or any other not ungrateful ; as by the help of this, the turning of the Blood into Purulent Matter, and the farther harming of the Ulcerated Part is not only hindred, but moreover the total Cure hereof is promoted, especially if according to the vehemency of the Disease, or various largeness of the Ulcer, one or two drops of it be us'd thrice, four times, or oftner in a day, in a Spoonful of any Pectoral Decoction, or Mixture, or at least Sugard Beer.

37. The same Blood, carried whencesoever into the Sharp Arteries of the Lungs, lest it clotted there, and hence corrupt, is to be kept Dissolv'd by convenient Medicines, or is to be Dissolv'd again and Voided. To which purpose *Crabs-Eyes*, together with *Disphoretic Antimony*, are to be prefer'd before many others, being dissolv'd in a little distill'd Vinegar and taken, some grateful things being added, seeing that they

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do the main Work here. For Example, take the following Form by Spoonfuls;

*R. Hyssop, Fenel-Water, of each ʒ i. Matthiolas
his Aqua Vine ʒ ii. Distilld Vinegar ʒ ss. Crabs-
Eyes ʒ ss. Diaphoretic Antimony ʒ i. Syr. of
Maiden-Hair ʒ i. M.*

38. But in such Mixtures as have Crabs-Eyes dissolved in Vinegar, beware lest Syrups made of Mucilages be added to them, such as are that of Marsh-Mallows, Jujubs, Violets, and such-like; because presently, or soon after, they thence become thick like Mucilages and unfit for use; which will not easily be, if the Syrups us'd be prepar'd of Aromatics, and especially fresh enough, seeing many become more viscous in length of time.

39. When by the proper Disease of the Lungs, Blood pure, or corrupted into Matter, is voided by Coughing, there is greater danger, wherefore we must hasten the more to its Cure, lest the opportunity here, if any where urgent, be lost by delay; for the singular Substance of the Lungs is easily infected and corrupted, but difficultly restor'd and repaired.

40. Therefore must we not cease from the use of Medicins that cure the efflux (and corruption) of Blood burst out of the Vessels of the Lungs, till the evil be wholly taken away: Yea, I advise, that a sparing use of mild Medicins should be continu'd for some time after the Disease is cur'd to sense, whereby the part once affected may be strengthened against the access of a new evil, and therefore easily again affected.

41. As in other Cases always, so here you must diligently attend to the Medicins that most conduce to every particular Body, whereby they may be preferred before the rest, and as long as they profit, continue

continue in the use thereof : And as soon as ever they are observ'd to profit less, substitute others in their room ; and so the Health of the Sick is to be promoted every way.

42. A Dry Cough arising from cold Air or Drink, may be Cur'd, by often stopping Expiration, whereby the Heat in the Lungs and Jaws being encreas'd, the harm arising and molesting by external cold, may be corrected.

43. Let me therefore here admonish you in general, that the Breath held as long as may be, and so also the Cough being hindred by force, will not a little conduce to allay and mitigate any Cough, and especially a Dry one ; by which means I have often observ'd, both in my self and others, that a Cough otherwise troublesome enough, has been wholly taken away or diminish'd ; as in like manner I have often noted the *Hicket* also so Cur'd.

44. When very *Viscous Humors* are the Cause of a Dry Cough, they are wont to be amended and corrected by those that potently Cut, being continually swallow'd in a small quantity ; for which use the *Bechic White Troches*, *Alicampane-Root* powder'd and reduc'd with Sugar into Tablets, or Pieces cut, &c. may serve, if they be held in the Mouth, and being dissolv'd with the Spittle, are continually carry'd down together with it into the Sharp Artery.

45. *Catarrhs* that are Salt and Sharp, breeding a Dry Cough, may be corrected and temper'd by the Pills of *Hounds-Tongue*, or *Styrax*, &c. so often mention'd by Me, not neglecting *Hydragogue Purgers*.

46. *Vapors or Wind* rising up to the Lungs from the Small Gut through the *Lacteal Veins*, raising a Dry Cough, require for their Cure Medicines ; 1. That

Temper or Educe Humors which are always Phlegmatic and Choleric, and sometimes also Acid.
 2. Such as Discuss Vapors and Wind, or assuage them as well in their rising as after it: The most whereof are often before propos'd, and among others in *Chap. 9. Sect. 29.* my *Carminative Spirit*, of great power in curing this Disease happily.

CHAP. XXIV.

Of the Nourishment of the Lungs Deprav'd.

1. **H**itherto I have thought with others that own the Circular Motion of Blood, that the Blood is not only alter'd by the Air Inspir'd, but moreover that it is *driven forward out of the Right Ventricle of the Heart into the Lungs to be nourish'd by it*: Whence as the Lungs alone receive this Blood, so I thought they alone were nourish'd by it, until last year an *Artery* arising from the Descending Trunc of the Great Artery, was discover'd by the Observation of the most diligent Anatomist, and famous Embalmer of Bodies, Dr. *Frederic Ruysch*, a Physician at the *Hague*, containing in a public Discourse, *An Explanation of the Valvul's in the Lymphatic and Lacteal Vessels, and some rare Anatomic Observations*; and, because it accompanies the widenings of the Wind-pipe, call'd by him *Bronchialis*; and, as it carries the Blood elaborated and perfected in the Left Ventricle of the Heart to the Lungs, it is assign'd by him for their Nourishment.

2. But although, when I came to Print this Chapter, it happend opportunely that there was a Body
 of

of a Youth who perisht with Cold, to be Cut in the public Hospital; and I sought diligently the Artery in it aforesaid by the mentiond Treatise, but without success; yet would I not therefore herein mistrust so famous a Man, but rather lament, that a few days after I was hindred against all right by some through preposterous spite less addicted to the Common Good, and oft hurtful, whereby I could not Dissect the Body of a Youth dead of Difficult Breathing, and search out the second time the forenam'd Artery, to demonstrate it in public for the sake of many Students earnestly desiring to know this thing by ocular Inspection; especially seeing that the same Dr. Ruysch had in one word shewn me the way to observe it more certainly, and had also told to others that the same thing had happend more than once which had happend to me.

3. Whether therefore the Lungs receive their nourishing Blood by this *Bronchial Artery*, or together by that of the *Lungs*, as oft as by reason of the Effervescency of the Blood Ascending and Descending, vitiated in the Right Ventricle of the Heart, the Blood rising from both is vitious, the *Nourishment of the Lungs will be deprav'd*, and that sooner, more easily, and potently than any other part of the Body, if they be nourisht in part, at least by the Blood coming out of the Right Ventricle of the Heart, being less temperd than the other effus'd out of the left Bed of the Heart, and more or less temperd in them by the Air Inspir'd.

4. *The Nourishment of the Lungs is Deprav'd*;
1. When it is *Diminisht* or *Abolisht*, and they pine more or less. 2. When it is *Il-nourisht*, and the Lungs get a Substance and Consistency harder, or more compact than is naturally, or on the contrary

softer, or more flaccid, or also unequal, &c. For
 3. I scarce think, and that very seldom, that the
 Nourishment of the Lungs may be *Encreas'd*, if we
 speak properly, as long as their Substance is lauda-
 ble.

5. *The Lungs* Pine more or less, sometimes in both
sides, sometimes in either, and in this or that *Lobe*,
 by the fault of either *It self*, or the *Blood*, or *Mat-
 ter*.

6. By the fault of *the Blood*, when it is *Purulent*,
 especially in a *Pleurisie*, tending to an *Aposteme*, and
 communicating *its Matter* to the Lungs, either im-
 mediately, or by means of the *Blood*; whence Lean-
 ness, not only of the Lungs, but of the Universal
 Body is wont to follow.

7. Leanness may hap by fault of the *Lungs*, when
 by an *External* or *Internal Cause*, they become *unfit*
to assimilate to themselves the Blood duly flowing in;
 which I have oft observ'd happens *Internally by an*
Ulcer, *Externally by a Suppuration*; in both places
 by *Matter Corrupting*, not only the *Blood* of what
 sort soever carri'd to them, but also the very *Sub-
 stance of Them*, so that they cannot longer be nou-
 rish't by any *Blood*.

8. In the Year 1662. we found in the Academic
 Hospital, *the Right Lung wrinkled, wan and Lank*,
 and in my judgment *Consum'd*, in a *Watry Suppura-
 tion* of the right side, consisting of *Matter* and *Serous*
Liquor *Whitish*, collected together: which evil I
 thought was to be ascrib'd to the *Purulent Water* a-
 bout it.

9. In *Tifical People* for certain *the Lungs* are not
 only corrupted, and therefore also moreover pine, but
 besides the *Universal Body* consumes, because of *Blood*
 in like manner corrupted by *Matter* adjoin'd, and by
 degrees

degrees so corrupting all the Parts, that they become unfit to perfect natural Nourishment.

10. The Nourishment of the Lungs is Deprav'd by either or both kinds of *Blood vitious*, at least having *Vitious Humors* mixt with it; whence seldom the Lungs only, but also the other parts of the Body are together affected and ill-nourish'd.

11. To these Causes depending sometimes on *Choler*, sometimes on the *Juice of the Pancreas*, sometimes on *Spittle*, sometimes on the *Liquor* rising from this *Ternarie*, sometimes on *Chyle*, sometimes on *Lymphs* any way vitiated, sometimes on *Serous Liquor* not separated in the *Kidneys*, but remaining in the Blood contrary to Nature; and if there be more things which may and are wont to vitiate the Blood, is ascrib'd the rising of *Tubercles* oft observ'd here and there in the Lungs, and the change of their soft and spongie Substance into a *Fleshy, Tumorous*, and harder, and more solid many ways than is wont, or otherwise declining from their Natural Consistency.

12. The Nourishment of the Lungs is to be believ'd Encreas'd, when they keep their natural consistency and manner of substance, and yet grow out too much, and do so fill the Cavity of the Brest, that thereby Inspiration is rather hindred than made difficult: An Example whereof I have several times had in Dissection after Death.

13. I judg the Cause of this encreas'd Nourishment of the Lungs to be partly *Their best Constitution*; partly the Use of Food most apt to nourish the Lungs, and perhaps the Lungs taken out of younger Living Creatures.

14. The Signs of all these kinds of deprav'd Nourishment of the Lungs may be sought out of other Functions together Deprav'd; and, 1. The Sign of it
more,

more or less Deficient, must be enquir'd after from Respiration, variously deprav'd together with some kind at least of Leanness of the rest of the Body coming upon it, and especially after a Suppuration, or Ulcer bred in the Lungs, and so a Tisic.

15. II. The Ill Nourishment of the Lungs may partly be known by Respiration Deprav'd, partly by any kind of a Cachexie of the rest of the Body, whose diversity will manifest one only Humor, or together with others peccant.

16. III. Respiration hindered without an evident Cause, there being a laudable Constitution of the rest of the Body, will signifie the Nourishment of the Lungs Encreas'd.

17. By such Conjectures I think several Kinds hitherto noted by few, of Deprav'd Nourishment of the Lungs, may be distinguisht and manifest from one another.

18. The Nourishment of the Lungs Deficient because of Purulent Blood, or Matter it self in a Pleurisie, or other Inflammations degenerating into an Aposteme, carri'd to them any way, may be Cur'd, partly by conveniently Curing the foresaid Diseases, partly by freeing the Blood from Matter, partly by taking out of the Lungs the entred harm by Matter.

19. We will propose the Doctrine and Cure of a Pleurisie, and other Inflammations in Chap. 40.

20. Any Antimonial Medicoins will free the Blood from Matter perhaps before all others, whether they be Diaphoretic, or Purgers, and Vomitors; which I have often observ'd, even in a Tisic, and an inveterat great Ulcer of the Lungs, have brought away a good quantity of Matter by Stool and Urine, so that then for many days no Matter was cast forth by a Cough. And that there had been a great Ulcer in the Lungs, and

and moreover manifold the Dissection I made of the Body after Death did manifest.

21. *The Harm ascrib'd to Matter may be taken out of the Lungs*, whether it be a deep Ulcer, or only a superficial Exulceration, both by *Vulnerary Decoctions* so call'd, and also by any *Balsam of Sulphur*, and especially that of *Anise-Oil* more grateful.

22. Let this, or one like it, be a form of an accommodated *Vulnerary Decoction* for the Lungs in this Case; which,

R^x. *The Root of Licorish slic'd* $\frac{3}{4}$ i. of *Aristolochie* $\frac{3}{4}$ lb. *The Leaves of Speedwel, Scabious, Saracens-Comfrey, Ladies-Mantle, Winter-Green*, of each Man. i. *Raisins of the Sun ston'd* $\frac{3}{4}$ iv. Boil them in *Barley-Water* in $\frac{3}{4}$ xxx. of what is Strain'd, dissolve *Syr. of Hyssop, of Oak of Jerusalem*, of each $\frac{3}{4}$ i. M.

Let the Sick drink $\frac{3}{4}$ i. or ii. of this Decoction oft in a day; to which one Drop of the mention'd Balsam of Sulphur may be added, or us'd apart in another grateful Liquor, twice or thrice daily.

23. I still account the Balsam prepar'd in like manner of the truly Sulphureous and Infameable Flowers of Antimony to be the more excellent, whose great Vertues I have oft experienc'd.

24. *The Harm of the Lungs that follows a Suppuration*, may be Cur'd, either by carrying Matter out of the Cavity of the Brest by a *Paracentesis* made in the Brest, or by emptying it out by Stool or Vomit, which I remember was some years since done by a Chirurgeon and Empiric living in the Country, by a singular Decoction; by the help whereof, though the Sick being grievously affected in his Brest, and by degrees pining was esteem'd incurable by several Physicians, and famous Chirurgions, yet was he cur'd

cur'd most happily in a few weeks, and hitherto hath liv'd sound; Let none rashly carp or laugh at that (which is commonly done by many conceited) the reason whereof they know not.

25. *The ill Nourishment of the Lungs may be Cur'd* divers ways, according to the diversity of the Humors then together peccant and producing that Depravation, always adding those call'd *Pectorals*, and *friendly to the Lungs*. We have often before handled every Depravation of the Humors.

26. I doubt how *little Knobs* arising in the Lungs, and not easily known, unless by conjecture very uncertain, ought or *may be Cur'd*, unless perhaps the *more fixt Antimonial Medicins* can do it, being indued with an universal force of purifying Mans Body from all Harm and Impurity.

27. If any would *diminish the Increas'd Nourishment of the Lungs*, he ought to use Food somewhat thicker, and less spongy, at least Sauces, or Medicins that hinder, stop, or repress (if it be lawful to say so) the too great rarefying of food; such as I think Pearl, Coral, Lacca, Chalk, &c. are, if they be seldom taken in a small quantity.

CHAP. XXV.

Of the Perfection of Blood in the Left Ventricle of the Heart Deprav'd.

1. **I**T is known by the Circular Motion of Blood, that Blood is driven forward to the parts of the Universal Body, and so to the Lungs, (of which we have spoken in the preceding Chapter) out of the Left Ventricle of the Heart: Whence it is not undeservedly askt, *Wherein differs each Blood effus'd out of each Ventricle of the Heart?* To which I Answer, It differs in this, That, 1. *the Blood of the Left Ventricle gets a new Alteration in the Lungs by the Air Inspir'd;* And perhaps, 2. *something may come to the same Blood, either from Spittle, or from another Glandulous Liquor moistning the sharp Artery, and mixing it self with the Blood together with the Air, and so far also after a certain manner Altering and Tempering it.*

2. And I plainly doubt whether moreover any thing else happen to the Blood in the Left Ventricle of the Heart; nor hitherto do's any notable Sign of it come into my Mind whence I may conclude it.

3. Wherefore I can at present only assert this, That the Blood going through the Artery and Vein of the Lungs, and perhaps the middle substance of the Lungs comes out of the Left Ventricle of the Heart temperd, less hot and raren'd, and so more mild than out of the Right, both by the Inspired Air or Spittle, or any other Glandulous Liquor; and that its *Perfection* seems to me to consist in this, That its *manifest*

fold Particles first potently Effervescing, or Raref'd, and much sundred from each other, now *being mildly Temperd and Condens'd*, do again close more or less slackly, and so they become more apt, as well to Nourish the Containing Body, as to produce several Humors in the Body, and so to preserve Life.

4. Therefore this *Perfection of Blood is Deprav'd*, chiefly, when the same Blood is *too little or too much Temperd*, or also is *too much Kindled*, and Raref'd, or otherwise *Corrupted* by the *Air Inspir'd*, or the *Humors of the Body* communicated to it with the same: Of which see what is said in *Chap. 21.*

5. *The Blood may be corrupted by the Inspir'd Air*, when it is *much defil'd* by any *Wind*, or *Exhalations* whencesoever proceeding and mixt with it, and communicates its harm to the Blood carri'd through the Lungs; whence the same harm divers ways infecting the whole Mass, or its greater or less part by degrees is sometimes dispers'd every way, other-times adheres to one part chiefly, and manifests the force of its malignity in it; as we have known it in the *Pest*, and other *Epidemic Diseases* for the most part depending on the *Air ill-affected*.

6. This *Perfection of Blood* is also deprav'd by the *Humors* mixt with it *Ascending or Descending*, either *Choler*, or *Lympha*, or the *Liquor arising from that Three-fold Sway* in the Guts, or also *Chyle* so far exceeding in an ill quality, that it cannot again be *Temperd Conveniently or Sufficiently* by the *Inspir'd Air*.

7. We related in *Chap. 21.* how the most *Depravations of Air Inspir'd* are to be amended.

8. We intend to tell you how the same *Air defil'd* and corrupted with a *malign Quality* ought to be corrected, where we intend to treat of the *Pest*, and *Malign Fevers*.

9. Lastly,

9. Lastly, By what way and means *the Humors carri'd with the Blood to the Right Ventricle of the Heart*, and so far *corrupting it*, that it cannot be enough temperd by the Inspired Air, or other Humors mixt with it in the Lungs, ought to be *restor'd to former integrity*, is to be sought out of the Cure propos'd before of every kind of the nam'd Humors ill affected, and still to be propos'd all over.

CHAP. XXVI.

Of the Motion of the Heart and Arteries, or the Pulse Deprav'd.

1. **T**He *sides of the Ventricles of the Heart* are by little and little *Distended*, and *Unfolded* by the *Blood* driven forward into them out of the Veins, and its Earlets, and that partly in *Plenty*, partly and chiefly by the *Rarefaction* filling them again because of the *Effervescency* of it, till the same Blood be pour'd out by their following *Straitness* into the Arteries annex to them; which therefore are *Laid open*, as a little after *Bound together*, and that by a *Motion* sometimes manifest to *Feeling* and *Sight*, which is known among Physicians by the name of the *Pulse*.

2. For by the *Pulse* the Physicians understand the two-fold opposite, and contrary, yea reciprocal *Motions of Expansion*, and *Contraction* in the two-fold parts mentiond according to its *Sides* or *Tunics*: And the *Motion of Dilatation* and *Straitning* according to the *Cavity* of the *Ventricles* of the *Heart* and *Arteries*.

3. We think *the Right Ventricle of the Heart* is *Displaid*,

Displaid, both by the *Plenty of the Blood driven in*, and by the *Largeness of it soon Rarefying* by the *Effervescency*; and the *Left Ventricle* by the *Plenty of the over-hot* and as yet boiling *Blood*, howsoever more or less temperd in the *Lungs* by the *Air Inspir'd*: and *Both Ventricles are Straitned* by the *musculous Substance of the Heart*, contorted wonderfully like a writhd Shell contracted by the *Animal Spirits filling its Fibres*, after the manner of the other *Muscles*.

4. We also judge the *Arteries are Displaid* by the *Blood Expell'd by the Contraction* of the Heart into Them; and the same are again *Straitned by the Animal Spirits filling their annular Fibres*, and *Narrowing their Cavity*.

5. The *Pulse is felt* by Physicians, not so much in the Heart it self, as in the *Arteries*, and especially in both *Wrists*, where they are more manifest to the Sense of Touching: Although the Pulse of the *Arteries* may be observ'd also about the *Temples*, and moreover at the *Neck*; as the *Motion of the Heart*, by laying the hand on its Region, chiefly when its *Palpitation* urges, that cannot be enough distinctly known by the *Pulsation of the Arteries*, or when a little or no Pulse is felt in the *Wrist*.

6. The *Primary Differences of the Pulse* felt in the *Wrist* may be reduc'd to three chief *Heads*, the *Strength, Greatness and Frequency of the Pulse*. For the *Swiftness* ascrib'd to the Pulse, may indeed be conceiv'd by the Mind, but not toucht and felt with the *Fingers*: And *Hardness* is but seldom found in the Pulse, and always in a *Præternatural State*; when as those aforementioned are observ'd both in a *Natural and Non-natural Pulse*.

7. A *Pulse* is call'd *Strong*, when the *Artery smites forcibly the Fingers of him that Touches*; but
Weak,

Weak, when it happens only gently and lightly.

8. The *Pulse* is said to be *Great*, when the Artery is unfolded much, and with a large space; but *Little*, when little and in a narrow space.

9. The *Pulse* is call'd *Frequent*, when the expansion and siniting of the Arterie is observ'd in the same space of Time oftner, then otherwise, or in others; and *Rare*, when it is less oft, then is wont, or ought to be.

10. The *Pulse* is call'd *Moderat*, or *Mean*, which is the middle between the extrem's of the three fore-said Differences.

11. A *Strong*, or *Potent*, and *Valid* Pulse is caus'd by the *Animal Spirits* plentifully carri'd to the Musculous Substance of the Heart strongly contracting it; whence it is never preternatural upon its own account, yet sometimes upon the account of the Cause provoking.

12. A *Weak* Pulse oft follows a *Universal Defect* of the *Animal Spirits* in the Universal Body, at least partly in the Heart it self; sometimes a *Sluggishness* and *Drowsiness*, or Unmovableness of the Universal Body.

13. A *Universal Defect* of the *Animal Spirits* is, both because of *Defect* of the *Blood*, by a notable *Effusion* and *Hæmorrhagie* of it, sometimes by prolonged *Hunger*: and because of the *Effervescency* and *Rarefaction* of *Blood* hindred in a *Syncope*, *Hypochondriac Suffocation*, &c. whence a *Weak* Pulse always concurs with one *Little*: And because of the *Spirits* exhausted with *Cares*, *Hunger*, *Watchings*, or too much *Motion* or *Agitation* of the *Body*: And because of the ill-affected *Brain* being averse to the separation and preparation of the *Spirits*.

14. *The Animal Spirits will be Deficient in the Heart peculiarly, if the Nerves tending to it be wounded*; for I scarce think that they alone, the others being well, can become unfit to let the Spirits pass through by any moisture.

15. The Animal Motion of those that walk in Sleep, testifies that *Sluggishness and Drowsiness of the Animal Spirits* is not always to be found in Sleep, or *Drowsiness* it self, and the Pulse it self in a grievous Sleepiness oft very Strong: Whence it is manifest that *Narcotics*, as such, do *not* so affect the *Animal Spirits* perhaps, or *all the Nerves equally*, as the Organs of the external Senses, or *the Nerves tending to them*.

16. But *Sluggishness and Drowsiness* is always found in the *Animal Motion* by Frost, and any vehement cold of *Air, Water, and other things*; although we may doubt, whether the *Animal Spirits* themselves, or rather the *Muscles* be then indeed and by themselves affected by cold; seeing (unless its Cause be extreme) that *Drowsiness* of the Parts according to Motion, may be prevented or also overcome by a vehement agitation of the Body, which could not be, if *Drowsiness* had seized on the Spirits; which being movable and subject to the Government of the Mind, the *Muscles* may the easier be freed from *Drowsiness* by their more plenteous afflux to them then is wont.

17. A Great Pulse follows an ample and full Rarefaction of Blood, the Softness of the Arteries concurring.

18. A Little Pulse happens, both by a small Rarefaction of Blood, and by the Hardness of the Arterie, because of which it cannot be much displaid.

19. A Frequent Pulse owes for its Cause either the highest Rarefaction of Blood, so that it cannot be enough

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enough receiv'd by the Greatness of the Pulse only ; or the Hardness of the Arterie in a mean Rarefaction of Blood ; whence a Great Pulse is conjoin'd there to One Frequent, here One Little ; or anything else oft pulling the Heart to Contract it self.

20. Lastly, A Rare Pulse haps by a small and slow Rarefaction of Blood.

21. The Plenty of Animal Spirits follows a due Use of Food abounding with a Volatil Spirit, and their Fermentation in the Stomach, and Separation in the Guts, and Effervescency in the Heart, and especially, beside the laudable Productions of all the other Humors, the Separation of the most Spiritous Part compleat in the Brain and Cerebellum : As Their Defect, beside those we mention'd in Sect. 13, 14, all contrary to these fore-mention'd ; as is manifest by treating of the nam'd Functions Deprav'd.

22. The Blood Rarefies much, when it is laudable, and a potent Fire is stir'd up in the Heart, when the Effervescency is ; which yet, when it is too Great, the Blood Rarefies more than enough, and thereupon ill, as is wont to be in Burning Fevers.

23. The Blood Rarefies less, or Little, when it is less fit to rarefie, and more fluid, or viscos then is usual ; or a more Sparing Fire is stir'd up in the Heart, and not enough to rarefie the Blood sufficiently.

24. The Natural Hardness of the Arteries is to be ascrib'd to the Thickness of their Coats ; as the Preternatural is commonly wont to be ascrib'd to the Inflammation of the Membrans.

25. The Blood Rarefies very much and suddenly, when both it is more fit to rarefie, and a sharper Fire is kindled in it and the Heart.

26. The Heart is Oft or continually pull'd to Contract it Self, both by any Sharp thing carri'd together

ther with the Blood to it, be it a *Sowr*, or a *Lixivial Salt*, or mixt of both, as is *Salt Brine*; and by any *Vaporous* or *Windy Thing* piercing into the Ventricks of the Heart, and a little, but not too much unfolding its *Sides*, and so indeed, that they may again be contracted; and by *any Thing without the Heart*, to wit, containd in its *Pericardium*, that *corrodes* and *pricks* it. So we found a Salt and Sharp Humor three years agoe in the *Pericardium*, by which as well the Membrane of the *Pericardium*, as of the Heart, was corroded and fretted.

27. A *Small*, and *Slow Rarefaction* of Blood, proceeds either from *Its exceeding Viscousness*, or from the *Fire more sparingly breaking* forth in the conflux of both Bloods, or from *Both* concurring together. For it can scarce ever be, that *Choler* or *Lympha* should be very sharp, the Universal Blood being for some time too Viscous; unless in regard of *Diet*, and especially of *Food*, sometimes *Choler more Sharp*, sometimes *Lympha*; and the *Juice of the Pancreas* more *Sowr*; sometimes *Spittle*, and *Pblegm*, be bred more *Viscous*: which easily haps, when Men use *Food* of many sorts, apt to breed one while one, another time another ill Humor; and moreover use now hot, and cold *Air*; and besides are immoderat in the *Motion* of their *Body* and *Mind*, &c.

28. How the mentiond kinds of a *deprav'd Pulse* ought to be *Help'd*, is not difficult to conclude by what is propos'd here and there.

29. So the other *Differences*, and *Causes* of the *Deprav'd*, to wit, *Unequal*, *Intermitting*, &c. *Pulse*, may without difficulty be searcht out from what has been said.

30. Otherwise, God willing, in the Second Edition of this Work, we intend more accurately to examine

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amine, and explain all these, and enrich them with a notable Addition; And now let us hasten to the Diseases consecretary, or accompanying the Pulse Degrav'd several ways.

CHAP. XXVII.

Of Fevers in General.

1. IF we observe the manner of Practitioners, and their Signs, (which wholly ought to be in searching out the Nature of hidden or controverted Diseases) from which They and Others are wont to conclude of the presence of a Fever, it will easily be manifest that *They argue a Fever from the Only over-Frequent Pulse not natural*: But when the *certain kind of the Fever is to be determin'd*, and distinguish'd from others, Then who but a mere stranger in Practice knows not? that they do attend to *more Signs* at once.

2. But lest we repete here unprofitably, (those things which we have already publish'd in our Two Disputes of Fevers, and may annex them to this or another Book) *we will seek out the various Kinds and Differences of manifold Fevers from several Causes of the Pulse over-Frequent, otherwise then naturally*, affecting diversly as sought from daily practice, so again directed to the same.

3. Therefore *the Cause of the Pulse beside nature too Frequent*; to wit, having the conjoind, or soon approaching trouble of the Body, or notable Pain, and so the Weakening of some Function requir'd to the happiness of Natural Life; is either, I. A

permanent and over-Rarefaction of the Blood, made by an over-potent Fire bursting out from the Effervescency of both Bloods.

4. Or, II. Any thing that is Sharp, sometimes Sour, sometimes Lixivial Salt, sometimes Briny Salt driven forward through the Veins together with the Blood to the Heart, and Internally gnawing the Substance of the Heart.

5. Or, III. Any Vapor-like Windy thing, in like manner carri'd to the Heart, or stir'd up by the Effervescency of the same in the Heart, and encreasing the Opening of the Ventricks of the Heart.

6. Or, IV. Any Sharp or Hard thing, being either in the Pericardium, or elsewhere, and externally corroding or pricking the Heart.

7. You may further Observe, That the Causes of the Pulse more-Frequent beside Nature, doth sometimes affect the Heart by Intervals only, and those sometimes *erdiat* and certain, sometimes *inordinat* and *uncertain*: Whence depends the most notable Distinction and Division of Fevers into Continual and Intermittent.

8. A Fever is call'd Continual, which remains from the first moment of its Invasion, to the last Moment of its Duration, and its whole Cessation.

9. A Continual Fever, when more mild, continues only one day, and is call'd *Diaria*, and *Ephemera*; as that which is call'd *Diaria* of more days, or a *Synochus* not putrid, when it also being more mild, is continu'd a few three or four days.

10. An Intermittent Fever, is that which returns after Intervals, sometimes longer, sometimes shorter in divers Fits.

11. Whence according to the divers Space of every Access or Fit the same gets also divers Names. For if a

new

new Fit return daily, answering the precedent in proportion, it is call'd a *Quotidian*; But if it only hap every other day, it is call'd a *Tertian*; If the Fits return after two days of the intermission, it is call'd a *Quartan*, and so forward. Although *Quintans*, *Sextans*, &c. are seldom observ'd, yet are they observ'd sometimes.

12. Beside this double primary Kind of Fevers, there is yet one *mixt or compounded of both*, and indeed Continual, yet having some Fits, and again Remissions, and that sometimes every day, sometimes the third, sometimes the fourth, whence it is deservedly nam'd, either a *Quotidian-Continual*, or *Tertian-Continual*, or *Quartan-Continual Fever*.

13. There are moreover Observ'd Fevers many ways compounded of more *Intermitting Fevers*. Such are, I. *Double*, or *Triple-Quotidians*, as oft as two, or three Fits are produc'd in the same day, successively answering in a differing proportion.

14. Such are, II. *Double*, or *Triple Tertians* consisting of two or three *Tertians*, whether in a *Double Tertian* two Fits the same day, or one each other day return; or in a *Triple Tertian* two in one day, one in the other day, or sometimes Three in one day, in the other day no Fit troubles.

15. A *Double Tertian* returning in divers days, is distinguish'd from a *Quotidian*, both upon the account of the time of its coming, and by reason of its continuance, and by reason of the Accompanying Symptoms. For when because of all these the First Fit answers to the Third, and this to the Fifth; and the Second to the Fourth, and this to the Sixth, and so on, we conclude there is a *Double Tertian*; and a *Single Quotidian*, when the first Fit answers to the Second, this to the Third, and so on.

16. A Double Tertian is also argued, when a Single Tertian preceded, returning every other day; which if it afterward return daily, it is wholly to be esteem'd a Double Tertian, but not a Single Quotidian.

17. I know there are not wanting Great Physicians, who deny all Quotidian Fevers, and only admit of Double Tertians, or Triple Quartans, and indeed, at least as much as I can judge, more by Prejudice, than certain Experience, or Reason compelling: Which if any consult with an attent Mind, I see not by what right Quotidian Fevers should be excluded from the number of the Rest; as it will be more evident, where we shall propose our Thoughts of the Causes of Intermitting Fevers.

18. Such, III. Compounded of Intermitting Fevers are *Doubled, or Triple Quartans*. For it happens sometimes, that the Sick is free from a Fever only one day, and has new Fits the two following; and then there is no doubt of a Double Tertian.

19. But there also happens, that a new Fit daily returns, yet so, that the First answers to the Fourth, and this to the Seventh; the Second to the Fifth, and this to the Eighth: Lastly, The Third to the Sixth, and this to the Ninth, and so forward; or that of a Single Quartan one Double be bred, and at length of one Double a Triple one; whence in like manner it is easily distinguished from a Single Quotidian, or Double Tertian: A Confirmation whereof is sometimes had from its Cure; if, to wit, one Fit be first taken away, and then the Fits still return both days following, one day of intermission being interpos'd; or if two Fits be taken away, one only remaining and returning any fourth day. That I may now conical other Symptoms more proper to Quartan Fevers;

Fevers, and but seldom observable in Tertians or Quartans, and that usually then, when they incline to the nature and likeness of Quartans.

20. Beside these Intermitting Fevers that are orderly, and return for the most part at a certain time, unless some Error be committed in Diet, or some Medicin be us'd, there are even others observ'd frequently enough returning and afflicting, sometimes at this, sometimes at that time, and even uncertainly; which therefore who might not fitly name them Inordinat and Wandring?

21. But although the most Fevers are wont to invade the Sick with a greater or less *Sense of Cold, Heat* sometimes lighter, other-times more grievous succeeding it; yet are there not wanting, such as only Cold, or only Heat, or neither accompanies, manifest to the Sense, as well of the Sick, as of Physicians, or by-Standers: Let none think, as is commonly said, *That the essence of every Fever, Consists in Heat encreas'd, beside Nature in the Heart, hence dispers'd through the Universal Body.*

22. None who hath weigh'd accurately with an attentive Mind both the Fabric and Ways, or Vessels of the Containing Body, and the natural Motion of the Contain'd Body, that is, of the Blood, and other Humors, will deny *that the Cause of Continual Fevers* is requir'd *Continual*, that is, continually carri'd to the Heart: As on the contrary, *the Cause of Intermitting Fevers* is not continually, but only by *Intervals* carri'd thither, and therefore apt to be hindred in its motion to the Heart.

23. Seeing *Cold and Heat* are deservedly numbred as *the chief and more frequent Symptoms* among the most of manifest Fevers, we must diligently enquire into the most probable *Causes of both*, and hence into
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the Causes of the Continual Heat after the first Cold overcome; or both of Cold and Heat returning by Intervals; or of Heat stir'd up only in a divers and determinate time: For these things being look'd into and determin'd. it will not perhaps be very difficult to explain the Fevers, though most divers. and to extricate the Mind desirous of Truth, from almost infinite difficulties to be mov'd by any.

24. That therefore, omitting the Opinions of others, (for I think it behoovs every Man to prove his own) I may in a few words relate, That that seems true even to me, I judg, (I.) *That the Cause of every Continual Fever is Cholera, or Lympha, (under which I comprehend the Juice of the Pancreas, and so Spittle it Self, in as much as they are carri'd to the Heart) or Both vitious, and raising such an Effervescency in the Right Ventricle of the Heart, whence the Pulse is continually produc'd more frequent.*

25. But I deduce Cold observable about the first beginning (if a Continual Fever depend on Cholera alone primarily vitiated) from the same vitious Cholera, together with the Juice of the Pancreas raising an Effervescency vitious in the small Gut, and that such, as somewhat sour Vapors are carri'd up by the said Juice, and being anon driven every way, breed a light Cold every where, which yet a little after gives place to Heat bred by the same Cholera carri'd to the Heart.

26. But if a Continual Fever depend on Lympha alone, primarily vitiated, seeing it follows both the Conglobated Glandul's, and also in part the Conglomerated Glandul's, and so the Pancreas it self ill-affected, what wonder if the Juice of this being made somewhat more Sour, breed a vitious Effervescency with Cholera in the small Gut, and together send forth somewhat sour Vapors, which being dispers'd through
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the Universal Body, every where stir up a Sense of Cold divers according to its greater or less Harm?

27. But if a Continual Fever depend both on Cholera, and on Lympha together vitiated, Cold troubling the Sick about its beginning, is produc'd from the mentiond Causes conjoind.

28. After the preceding Cold sometimes more grievous, sometimes lighter Heat is wont to follow in the most of Continual Fevers, and much greater, and more troublesome from Cholera alone primarily peccant, whence therefore Burning Fevers do arise; but much less, and more mild, and sometimes None from Lympha alone primarily peccant, chiefly when much Phlegm together abounds in the Sick, to which Chill Fevers are to be ascrib'd: Lastly, Heat being mean, from both together vitiated, and separating it self again after a certain manner.

29. When the Lympha is vitiated, and the Glandul's that are in the Brain are together much affected; First, A Stoppage of the Head, that is, a Burthen-som Pain in the Head, (if we follow the proper signification of Words) is wont to be rais'd, and a little after both sometimes Coryza, when the Liquor falling down from the Brain distils to the Nostrils; and sometimes an Hæmorrhæ or Cough, when it distils to the Jaws, or Lungs, known by the name of a Catarrh; whence the Fevers then accompanying are wont to be nam'd Catarrhal Fevers.

30. II. I judg the Cause of all Intermitting Fevers to be the Juice of the Pancreas in some part of it, standing still in one or more lateral Passages of the Pancreas obstructed, and made sharper by its stay there, and piercing through Phlegm more, or less viscous, the Cause of the noted Obstruction, a way being prepar'd by force by that sour Acrimony, and effus'd
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into the small Gut, and there raising a vitious Effervescency with Choler and Phlegm, and indeed producing different Cold in the beginning of the Fit, sometimes more grievous, sometimes lighter, sometimes longer, sometimes shorter, till at length (when no more of it retain'd against Nature, and so vitiated flows out) the same is overcom'd again (which is usually) by Choler, partly before compress'd, and, as it were, suppress'd, now again being return'd to it self, partly sliding down continually; whence the Mixture rising from both and Phlegm, and being carri'd to the Right Ventricle of the Heart, is the Cause of the Heat following, sometimes greater, sometimes less, sometimes none, as Choler and Phlegm are variously affected to the Juice of the Pancreas always at least then in part vitiated.

31. III. I judg the Cause of Fevers compounded of Continual and Intermitting Fevers, and not quite Intermitting but Remitting only, and again stir'd up both Causes of each, newly mention'd, together concurring.

32. IV. I judg the Cause of Continual and Mild Fevers in the mean time stir'd up about Two Hours after any Food taken in (commonly call'd Heëtic Fevers) to be chiefly Spittle vitious, and giving occasion for vitious Chyle because of more Glandul's together affected; by which Chyle so carri'd to the Heart, the Effervescency being deprav'd, the Pulse is still stir'd up more frequent then before.

33. In like manner as I judg all Cold in any Fevers to be deriv'd partly and chiefly from the Juice of the Pancreas, as sour, and perhaps sometimes also from Lympha, in like manner being more sour; partly from Phlegm either Insipid or Acid: So I think all Heat is to be attributed to Choler upon the account, both of
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its *Lixivial Salt* and *Oil* ; for *Oil* is apt to take the force of *Fire* and keep it ; on the contrary, a *Sowr Liquor* is apt to extinguish it, and again to condense the *Oil* that was rarefied by the *Fire* ; but a *Lixivial Salt* especially join'd with an *Oil*, as oft as it causes an Effervescency with a *Sowr Liquor*, produces a notable Heat. And so, when all are moderat and keep their requisite proportion, and due manner, the vital *Fire* is preserv'd in the *Universal Blood* by that friendly fight ; but it is encreas'd, as oft as *Choler* being very *Salt* and *Oily* has *Dominion* ; on the contrary it is diminish'd as oft as the power of the *Sowr Liquor* is greater ; Lastly, The same is extinguish'd, where the extreme excess is in either, or both of those somewhat Contrary.

34. A Fever may in general be Cur'd ; Either, I. By Condensing the *Blood* too much rarefied, and by allaying the over-Effervescency of the *Blood*.

35. Or, II. By Tempering any *Sharp*, or *Sowr*, or *Lixivial Salt* thing found in the *Humors* and carri'd to the *Heart*.

36. Or, III. By Discussing every *Vaporous Windy* thing, or by preventing its rising.

37. Or, IV. By taking away every *Sharp* thing, pulling the *Heart* on the out-side.

38. Among the *Symptoms* of *Fevers*, that are more frequent and primary, *Cold*, is Corrected by *Medicins* that temper the *Sowr Humor*, and amend *Inspid Phlegm* ; and *Heat*, by *Medicins* that mitigate the *Lixivial Salt*, and condense the *Oil*.

39. An *Obstruction* of the *Passages* of the *Pancreas*, may be Cur'd by loosening, at least by removing viscid *Phlegm* out of its preternatural place, and by carrying it out by *Vomit*, *Stool*, *Urin*, or *Sweat*.

40. And by what Means and Remedies all these may be performed, will not be difficult from what is above-

above-said, and will yet be more evident from the peculiar Cure of the several kinds of Fevers to be propos'd hereafter.

CHAP. XXVIII.

Of a Fever of One Day.

1. **T**HAT we may not seem rather to confound Students busied in the reading of Classic Authors, than help, we will treat in order the Kinds of Several Fevers, as they are commonly distinguished and propos'd.

2. Therefore let us begin at the *Diarian Fever*, which is either of one day, and scarce continues the space of 24 hours, call'd *Ephemera*; or continues two, three, or four days, call'd by certain *Diaria* of *More days*, and a single, pure, or not putrid *Synochus*.

3. A *Diaria* is wont sometimes to begin with a light shivering, testifying a little Cold accompanying or preceding; sometimes without it, and chiefly when the Universal Body by degrees is so far heated by some Non-natural Thing, that at length a little Fever is stir'd up, wherein Heat in the Heart and Blood doth not so much begin to be encreas'd, as to degenerate out of a more encreas'd Non-natural Heat, into a Preternatural Heat, which besides may deprave other Functions, and produce a Pulse more Frequent than is Natural, and although its Cause be taken away or moderated, yet remaining longer than is wont with greater or less trouble of him that is Sick.

4. Heat in a *Diarian* Fever, following a Shivering,
or

or stir'd up without it any way, is wont neither to intermit, nor to be made more intense by any new Fits, but uses to persist continual to the end, and remain in an *Ephemera*, as also a *Synochal Homotonus* or *Acmaestic*, so call'd, usually in the same degree; as gradually to decrease in a *Paracmaestic*, and in an *Epacmaestic* perpetually to increase, till at length it again cease by degrees.

5. The same *Heat* is *gentle*, mild, and vaporous in an *Ephemera*, the Skin remaining soft and moist: In a *Synochus* somewhat greater, yet not sharper when the Blood, and other Humors are temperat; but sharper, when the Blood is more sharp by Cholera or Lympha, a little sharper than is natural, declining a little to the nature and manner of those call'd Putrid.

6. The Causes of all Diarian Fevers, are the Six Non-natural Things, so call'd, vitiously us'd, and therefore soon manifest.

7. The observable Symptoms in Diarian Fevers, beside the over-frequent Pulse are divers according to the diversity of the noted Causes, either Alone or Adjoind.

8. For when a Diarian Fever is rais'd, by the alone Heat of Air, to be ascrib'd either to the Sun, or Fire, or Bath, no Shivering is observ'd, but Heat alone, and that by degrees more and more encreas'd in the Body, till at length being made Preternatural, testifies the presence of a Fever, not only by the Pulse greater and more frequent then is wont, but also by the Pain and Pulsation of the Head, and such like Symptoms anon to be recited.

9. If Cold of Air, or any other thing come upon the Body hot, what way soever, whence a Diarian Fever is rais'd, a light Shivering will precede the greater

greater Heat soon after following; and then in the beginning indeed the Pulse will be little, but anon greater, and conjoind to both more frequent, other Symptoms also happening.

10. So when a Diarian Fever is rais'd by strong, that is, very Spiritous, and especially Aromatic Drink taken in too much quantity, a Shivering will scarce ever precede the Heat continually encreas'd, and at length made Preternatural and Feverish, and not only manifest by a greater and more frequent Pulse, but by a Heat moreover troublesome, and by other Symptoms.

11. When a Diarian Fever, is bred by an over-agitation, weariness, and more vehement Motion, the Pulse is observ'd, not only more frequent, but moreover weak, beside a universal and troublesome weariness of the whole Body.

12. But when a Diarian Fever is caus'd by the Passions or Motions of the Mind, it owes Anger for its Cause, and then the Pulse is not only more frequent and greater, but moreover unequal and troubled; as, when it is bred by a sudden Sorrow, it is Little, Weak, and Unequal, and about the beginning of its approach Rare, and a little after more Frequent; in both Cases with a more sharp Heat, and a light dryness of the Skin.

13. When a Diarian Fever arises from Watchings prolonged, and Cares, a Frequent, Little and Weak Pulse is wont to be a present Companion, with a dryer Heat of Body, and Pain of the Head, carrying before it the Sense, sometimes of Weight, other-times of being Void, or of Emptiness.

14. All the Symptoms of Diarian Fevers, use not a little to vary, according to the various Constitution of the mention'd Causes, and of the Body both Con-

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Continent, and especially *Containd*, that is, of manifold *Humors*.

15. But the most Frequent *Symptoms* in the *Diarian Fevers* are, a light *Shivering* preceding, *Heat* somewhat more grievous following. *Thirst* sometimes greater, sometimes less. Sometimes a manifest *Bitterness of the Mouth*, sometimes none. *Unquietness* and *Weariness of the Universal Body*, & especially the *Lims* more or less troublesome. A grievous *Head-Ach*, with a notable *Pulsation*. *Watchings* prolongd, or an over-deep *Sleep*. A more stird *Respiration*. An over-frequent, and together sometimes greater and strong enough *Pulse*, sometimes *Less* and *Weak*; seldom *Unequal*. The *Veins* turgid. The *Skin* for the most part *soft and moist*, seldom *harder and dryer*. The *Face* red and tumid. *Urine* in the *Ephemeræ* scarce chang'd from its natural state; in the *Diaria* of more days more of a reddish colour. *Sweat* breaking forth, sometimes sooner, sometimes later, not ill smeld, nor troublesome to the Sick, seldom none.

16. A *Diarian Fever* is not dangerous of its own nature, whence it is terminated sometimes of its own accord with *Sweat* or *Moistness* for the most part; other-times it is overcom'd by an easie Art: But the danger to be feard, is either because of the vicious *Constitution of the Body*, especially *Containd*, affected, by reason whereof it may degenerate into others, both call'd *Putrid*, and the *Hellie*, or because of a new *Error* committed in some part of *Diet*, or in *Medicines* whilst it continues, because of which it may in like manner be chang'd into the named kinds of other *Fevers*, or other more grievous *Diseases*.

17. The *Cure* of *Diarian Fevers* is not difficult, seeing that the most go away of their own accord by a *Sweat*: But when the *Physician* is call'd for a *Cure*,

as at other times always, so also here *the Cure is to be Vari'd according to the variety of the Causes; the various Constitution of the Body, as well Containing, as especially Contain'd; and the Symptoms most urging.*

18. When therefore the alone heat of Air hath produc'd it; the same is to be chang'd with more temperat, at least to be temperd with cold Water or Vinegar pourd on the Floor, with Watry and Sowr Plants, Lettice, Sorrel, Vine-Leaves, &c. disperst through the Chamber of the Sick: And for him that is Feverish together Thirsting, let the following Julap, or one like it, be taken by intervals.

R. *Carduus-Water* ʒ vi. *Sorrel-Water* ʒ ii. *Syr. of Red Poppies* ʒ i. *Sp. of Nitre* vi. drops. M.

Let the Sick be moderately coverd to promote a Sweat mildly, and together to remove the Fever.

19. If Cold of Air, or any other thing come upon the heated Body, and by reason of this, a lighter perhaps, or more grievous Obstruction in the Vessels anywhere, and the Standing still of what is Contain'd, and hence other more grievous Evils be feard to follow, you may profitably mix a Scruple of the Volatil Salt prepar'd of Harts-Horn, of Salt Armoniac, or of any such-like with the foresaid Julap, and use it at several times.

20. If a Diarian Fever be rais'd by Strong Drink too plenteously us'd, the Cure may be Instituted by Drink somewhat Sowr, the Julap newly prescrib'd, or the following Tincture of Roses, which

R. *Barley-Water* ʒ xxx. *Rose-Water* ʒ ii. *Flowers of dried Red-Roses* ʒ i. *Oil of Sulphur made per Campanam*, what suffices for a grateful acidity.

Infuse them in a Glass Vessel clos'd, and in a warm place to extrall the Tincture of a pleasing Red Colour;

to what is Streind, add Syr. of *Jujubs* ξ iii. M.

By the moderat use of this most grateful Tincture, the Heat bred against Nature in the Blood and Universal Body, may by degrees be allayd, and the Fever joind with it be removd soon, safely, and pleasantly.

21. If a Diarian Fever be raisd by too much Motion and Weariness of the Body, the Animal Spirits consum'd more than enough, are to be repair'd with Spiritous Drink, yet so, that the Heat conjoind to the Body be not encreas'd, but rather together diminish'd. To this end I mention the following Mixture to be us'd by spoonfuls by short intervals.

R. Water of Line-Tree-Flowers, of Betony, of Fenel, of each ξ ii. Sp. of Wine rectifi'd, or Aqua Vitæ of Matthiolum ξ i. \mathcal{L} . Sp. of Salt dulcifi'd \mathcal{D} i. Julap of Roses ξ i. M.

22. When the Diarian Fever is raisd by over-rebement Anger, beside those things which make the Mind chearful, I commend the following Mixture, which may correct Choler together mov'd and made over-sharp, and may allay the Feverish Heat depending on it, if moreover it be taken by spoonfuls.

R. The Water of Plantane, Lettice, Sorrel, of each ξ i. Cinnamon-Water ξ \mathcal{L} . Sp. of Salt dulcifi'd \mathcal{D} \mathcal{L} . Syr. of Diacodium ξ i. M.

23. If the Commotion of Mind remain vehement, it will be profitable to add gr. ii. or iii. of Laudanum to the aforesaid Mixture, whereby the Body may the sooner be reduc'd to Sleep, and the Mind to Tranquillity.

24. When on the contrary, a Diarian Fever arises from a sudden and grievous Sorrow, for its Cure together with wholsome counsel apt to comfort and raise the Mind, I commend this following Mixture, which

is wont to amend the *Tart Juice* bred or encreas'd in all grievous Sorrow, and together renew the then Vitiated and Feverish Effervescency of Blood in the Heart.

R. Penny-royal, Fenel-Water, of each ζ ii. Our Carminative Sp. or Matthiolus his Aqua Vitæ ζ ss. Laudanum 2 Gr. Sp. or Volatil Salt of Salt Armoniac \mathfrak{z} i. Syr. of Fenel ζ i. M.

Give a Spoonful of it oft, till Sleep gently come, at least the Sick be better, and less molested about the Midriff, where unspeakable anxieties are wont always to urge in a grievous Sorrow.

25. When a Diarian Fever arises from prolonged Watchings for its Cure, Sleep is to be mildly promoted, both by removing the Causes of Watchings, and by disposing the Body to Sleep by this Emulsion, or one like it.

R. Cleans'd Barley boil'd till it crack ζ i. ss. the Seeds of White Poppies ζ ss. With the Decoction of the same Barley, Make it an Emulsion to ζ xv. adding Syr. of White Poppies ζ i. Fenel, or Rose-Water ζ i. ss. M.

Let him that is Feverish often drink a Draught of this Emulsion till he get Sleep. Which if it come not so, ii. or iii. Gr. of Laudanum may safely be added to the same Emulsion, and then Sleep may be produc'd more easily and potently; which coming they must abstain from farther use of the Emulsion, unless the same being interrupted, necessity of farther using it return.

26. When a Diarian Fever is rais'd by Cares corroding the Mind, and beside Watchings, making commonly all the Humors Sharper, I commend the Mixture which I gave in Sorrow of Mind, producing a Diarian Fever, for Young Beginners in curing this Fever also.

27. We

27. We admonisht, not without cause, in *Señ. 17.* that *its Cure is to be vari'd according to the variety of the Humors* occurring in any Sick of a Diarian Fever.

28. When therefore a *Plethora of Blood* is observd in such an one Feverish, it will be advisedly done to let out so much of it by a Vein open'd, as can be taken out without harm or swooning. For although Blood let even to swooning, doth not always ill succede; yet because sometimes and oft enough its great Evacuation made suddenly, hath brought many Evils to several Sick People, I always prefer its repeted lets diminution, as the matter and need requires, sometimes instituted in the same day: least when we would soon cure, we cure not safely enough; seeing it is soon enough, if well enough, and safely enough: Which Observation I only commend to Younger Physicians.

29. It matters little whether the Vein open'd be in the *Arm*, or *Hand*, or in the *Foot*, or in any other place; unless perhaps one place be prefer'd by the Sick: Or in *Women* one part is to be chosen before another, because of the *Monthly Courses* either at hand, or hindred; and *One Vein* may be open'd *safely* or more *easily* than another: All which I would have accurately observ'd every where by Physicians and Chirurgeons.

30. When *Choler* is *plenteous* in the Body, let it be diminish'd safely by a mild *Cholagogue*, and especially in the form of a Loosening Decoction or Julep, adding together those things that may temper the Feverish Heat; For Example;

Rx. The Root of Succory $\frac{3}{4}$ i. the Root and Herb of Dandelion M. ii. the Leaves of Sorrel M. i. Tamarinds $\frac{3}{4}$ i. $\frac{1}{2}$. Boil them in Barley-Water, ad-

ding to ℥ xx. of what is Strain'd, Syr. of Succory with Rhubarb ℥ ii. ℥ . M.

Or, R. Barley-Water ℥ xii. Fenel or Cinnamon-Water ℥ ℥ . Syr. of Succory with Rhubarb ℥ ii. Sp. of Vitriol, what suffices for a grateful Acidity. M.

Let the Sick take oft a Draught of this prescrib'd Decoction or Julap, till the Body be made more soluble; and then cease from farther using it, unless it become over-costive; for then some of either of them may be taken again.

31. When Cholera is not so Much, as it is Sharp, Altering Medicines, and especially Sower Things are to be taken in Drink, and chiefly those that are wont also to promote Sweat, Distill'd Vinegar, either single, or compounded together with others added to it before distillation, whither I refer the *Alexipharmio Water* of Amsterdam, and the *Preservative Water* much more grateful; for Anno. 1655. to escape the Plague, we together with Dr. Francisus vander Schagen, and Dr. Paul Barbetie, famous Physicians, took care that beside other things prepar'd by common Counsil at Amsterdam, it should be made for the sake and good of the Sick) whose Form therefore I think fit to add here.

An Excellent Preservative Water.

R. Angelica, Zedoary-Root, of each ℥ i. Butter-Bur-Root ℥ ii. The Leaves of Garden-Rue ℥ iv. Of Balm, of Scabious, Marigold-Flowers, of each ℥ ii. Unripe Walnuts cut ℔ ii. New Pome-Citrons cut ℔ i. Beat them all together, then pour on ℔ xii. of the best Wine-Vinegar, distill'd by it self to three fourth parts in Sand in a Glass Cucurbit.

Digest

Digest them all Night, in the Morning distil them with a slow Fire of Ashes almost dry, and that without burning.

This Vinegar, of great strength and most grateful, is to be kept for Use.

32. It may be mixt with ordinary Drink, Beer, a Decoction, Broth, &c. to a grateful acidity for any that is Sick, often us'd in a small quantity to take away Thirst, and to promote a mild Sweat.

33. When there is a rational fear, or some more manifest signs appear, that *Lymphs*, and the *Juice of the Pancreas* is over-Sowr in the Body for preceding Causes, a sharp Cold of Air sufferd, many Sowr things long us'd, a continu'd Sorrow of Mind, and such-like, it may be commodious to use the *Volatil Salts* of Harts-Horn, Salt Armoniac, or others more benign, (that both temper Sowrness, and mildly dispose the Body to Sweat) together with Food in Wine, or any other ordinary Drink.

34. When a Diarian Fever siezes on a Man, in whom *Pblegm* is found peccant, either in plenty, or viscosness, or saltness, then should endeavour be made, that when it is over-much it be diminishd, being viscons it be cut, being salt it should be temperd, and so many Evils feared that otherwise would follow, may be shund; and that by Medicins oft propos'd and mentiond before.

35. Medicins that are more mild, and more temperd, are to be us'd among *Delicate People*, and such as have a more tender Constitution of Body: Among Stronger People, stronger Medicins.

36. A more mild Thirst, and only following Heat may be remov'd, especially by watry and somewhat sowr things; as the same when more grievous, and owning the Acrimony of Choler encreas'd, or such a

like cause will need *more four things*; of which see Sect. 18, 20, 22, & 31.

37. When *Bitterness of the Mouth* urgeth, they will avail that mildly carry out Choler by Stool, of which we spake in Sect. 30.

38. Those things that Cure *Unquietness, or Weariness of Body*, are propos'd in Sect. 21.

39. They will take away the *Head-Ake*, and its *Pulsation*, and *Watches*, which are had in Sect. 22. and 25. To which may be added, among External Things, Epithems, or the following Liniment.

Rx. *Betony-Water* ℥ ii. *Rose-Water* ℥ i. *Marigold-Vin'gar* ℥ vi. *Opium of Thebes* ℥ ss. M. for an *Epitheme*.

Which being warm, with a Cloth dipt in it, cover both all the Forehead, and especially the Region of the Temples; and as oft as the Cloaths are found dry, presently moisten them in like manner with the same, till Pain be lessend and Sleep follow.

40. Prepare a Liniment of these, or such-like;

Rx. *Ointment of Poplars* ℥ ii. *Opium of Thebes*, dissolved in Oil of *Roses* ℥ i. M. for a Liniment.

Wherewith anoint each Region of the Temples, and spread it on a brown Paper, and apply it thither.

41. Those things that are containd in Sect. 21. and especially 24. will diminish *deep Sleep*, if you omit *Laudanum*.

42. When *more Symptoms* concur, it will not be very hard, from what is aforesaid, to frame or joyn such helps as may conduce to the same.

C H A P. XXIX

Of Synochal, commonly call'd Containing Fevers.

1. **T**He Fevers that some call *Putrid*, to distinguish Diarian and Synochal Fevers not putrid, so call'd by them, of which we have treated in the former Chapter, the most distinguish into *Continual* and *Intermitting Fevers*; as again them into *Containing*, or *Synochals*, and *Continuals*, in special so call'd, or *Synechals*.

2. It matters little that *Synochos* is an unknown word to the Antient Greeks and *Hippocrates*, and *Continual* and *Containing* is among the Latins us'd for the same; because, where divers Things occur, or are feign'd, which are destitute of distinct names, we may, yea it becoms us moreover to distinguish from one another the terms of their Origination and Signification, for a more distinct Doctrin's sake, and use every one enough explain'd before in a diverse Sense.

3. Therefore they call those *Synochēs*, or *Containing Fevers*, which continue *without any Fit* to their last and compleat ceasing; but *Synechēs*, or *Continuals*, have the general name of *Fevers*; which although they always persist to the end, yet do they daily, or every third or fourth day undergoe some Fit: I will examine them in this, these in Chap. 31. as *Intermitting Fevers* in the next following.

4. I said the Cause of *Containing Fevers* in Chap. 27. Sect. 24. was in my judgment sometimes *Choler*,
som-

sometimes *Lympha*, and they that flow together with *Lympha*, sometimes *both together* ill affected, raising such an Effervescency in the Right Ventricle of the Heart, whence continually the Pulse is bred more frequent against Nature.

5. Who therefore could not unfitly distinguish these *Containing* or *Synochal Fevers*, upon the account of their *diverse Cause*, into *Choleric* and *Lymphatic Fevers*.

6. And because under the general name of *Lympha* we do not only comprehend that *Lympha*, which goes from the *Conglobated Glandules*, and also from other *Parts* to the Heart; but moreover the *Juice* of the *Pancreas*, and *Spittle* it self, proceeding from the *Conglomerated Glandules*, and so the *Liquor* that is to arise from the *Three-fold Sway* of the *Guts*, all mixt together with *Lympha* with the *Descending Blood*; *Lymphatic Fevers* may be subdivided into *Glandular*, *Pancreatic*, and *Salivary Lymphatic Fevers*.

7. All these Fevers may differ something according to the divers Constitution of other Humors together being in the Body.

8. I judg that *Burning Fevers* are chiefly produc'd by *Choler*; and *Fevers* coupled with *acute Pains*, and *Prickings* of the *Head* and *Lims* from the *Glandulous Lympha*; as from the *Juice* of the *Pancreas* any joind with *gripes* and *prickings* of the *Belly*; lastly, from the *Spittle*, those which are observ'd troublesome with *anxieties* and *distensions* of the *Stomach*, and the *parts* near it. But as oft as several Humors of those mention'd are together vitiated, so oft the Symptoms of more are wont to concur together, as moreover the same occur more gentle then is wont, by the mutual tempering of the Humors peccant.

9. *Choler* at that time is wont to be peccant, either
with

with a Lixivial Salt Acrimony only, or moreover with an Oily Infameableness. Whence there indeed the encreas'd Heat is observ'd sharper, here together greatest. The Pulse there other things considerd is more frequent, here together greater. The Urin there thicker, here beside more colour'd. Thirst is there very troublesom, here insatiable. The Tongue is there dry, here together cloven or black.

10. The Lympha of all, or at least the most Conglobated Glandul's being more sharp and sour, and raising a Feverish Effervescency in the Right Ventricle of the Heart, breeds an Heat more corroding then great, and every where troublesom with Gripings.

11. The same Lympha becoming more sharp, and salt Brine, or together Acid, in the Glandul's of the Head especially, beside a stoppage, or burthensom pain of the Head, and hence the Coryza, or Hoarsness, or a Cough afterward following, is wont to produce the Catarrhal Fever so call'd, accompani'd with Heat, not so vehement and intense as gnawing and sharp.

12. In every Lymphatic Fever, a light shivering oft troublesom is present and urgeth. The Pulse is frequent more then great. The Urin is voided died and red for the most part, but soon after troubled, growing yellow, or white, and seems to let fall much manifold-settling, according to the various constitutions of the Humors; a grievous and pricking weariness uses to possess the Lims.

13. The Juice of the Pancreas being all of it diversly vitiated and made over-sharp, and breeding a Containing Fever, manifests it self both with Anxieties about the Midriff, and Gripes of the Belly, and Prickings, or bloody Purgings, or sharp Pain coupled, as also by the Pulse frequent chiefly, and inclining to littleness and weakness; and afterward unequal, with the

the *Appetite* sometimes *dejected*, sometimes *encreas'd*; with *Thirst* more rarely urging; with *Urin* commonly *crude* and *watry*.

14. The *Spittle* breeding a *Containing Fever*, is wont to be peccant with *encreas'd Viscousness*; whence it is perceiv'd more *mild* and *soft*, the *Appetite* being commonly *dejected*, and a *buribensom Pain* following the taking in of Food, sometimes a *Distension* and *puffing up of the Stomach* and *Guts* happening; and soon after *Wheazing*, or *Difficult Respiration*, and *sleepiness*; together with the *frequentie of the Pulse encreas'd*, one or two hours after Food taken in, again by degrees *remitting*; and therefore this *Salivary Fever* hath great affinity with that call'd *Hætic*, if it be not a lighter Kind of it, or at least always coupled with the *Hætic*.

15. They will less wonder or contemn these new *Distinctions* and *Names of Containing Fevers*, who being free from all prejudice, accurately attend to all the observable *Symptoms* and *Depravations of the Humors* peccant in several *Feverish People*, and neglect not the new *Anatomical Inventions* of this Age; as when compar'd with *Chymical Changes*, afford a wonderful *Light* to the intricate *Doctrine of Fevers*, to be extricated easier and more happily.

16. We have taught you before from what kind of *Non-natural Things* the aforesaid *depravations of Choler, Lympha, the Juice of the Pancreas* and *Spittle* do arise, so that it seems needless to stay longer here about them, seeing they may and ought to be requir'd thence.

17. But any *Studious of Truth* may ask, *How Heat troublesome though diverse in these Synochal Fevers, is bred from so diverse Causes?*

18. That to my ability I may endeavour to satisfy this

this just Question, I judg, I. That *Feverish Heat* is bred properly, and by it self, of *Choler* both over-sharp and fat, in as much as it raising an *Effervescency* both in the *small Gut* with the *Juice of the Pancreas*, and in the *Right Ventricle of the Heart* with *Lympha*, whencesoever flowing draws forth of it self, not only more particles of *Fire*, wherewith it abounds, but again receivs their greatest part then breaking forth every where with its *Oily Parts*, and indeed anon mixes more exactly with the *Blood* in the *Heart*, whence the same rareties more then is wont, and in like manner every where communicates a greater Heat, with a greater and more frequent Pulse.

19. II. I judg that *feverish Heat* is accidentally bred by the over-sowr *Lympha* of the *Conglobated Glands*, in as much as it raising an *Effervescency* in the *Right Ventricle of the Heart*, with *Choler* mixt with the *Blood Ascending*, assaults it sharper then usual, and so changes or corrupts it, that is, frees or deprives it of its viscoufness, that the fiery Particles break forth then more plenteously, from which a sharper and more fretting Heat is raisd by its mixing with a sowr Liquor, and it not a little varying in certain Circumstances, according to the diverse Constitution of the other parts of the *Blood* with a Pulse more frequent indeed, but seldom together greater, but oft rather Less.

20. III. I likewise think that *Feverish Heat* is accidentally bred by the *Juice of the Pancreas* wholly over-sowr, in as much as *Choler* is not only too much altered and broken by it in the *small Gut*, but the Mixture arising from the confusion of Both, and of the *Salivary Phlegm* being more sowr then is wont, when it com's with *Lympha* to the *Right Ventricle of the Heart*, rises anon more potently against the rest of
Choler

Choler ascending together with the Blood, and after its natural Viscousness is diminish'd, stirs up a sharp Effervescency with it hurtful to the Body, whence likewise *not so great, as sharp Heat* breaks forth, and that according to the diverse difference of the whole Mass of Blood in some, the present *Pulse* being always over-frequent, and as to greatness *Little or Mean*, seldom great, unless *Choler* together be very Sharp.

21. For, IV. as oft as *Choler* is found *sharp and oily enough* in the Body, either *Natural* or *Non-natural*, (that is, by reason of the use of a *Non-natural* Thing, as Summer Air, or Strong Drink, &c. continu'd a while) and yet not depraving any Function, and the *Acidity of Lympha*, or of the *Juice of the Pancreas*, or of *Both both be suddenly and so far encreas'd* by a *Non-natural* Thing, as the over-cold Air, or sour Drink, to wit, Rhenish-Wine, &c. that thereby a *Synochal Fever* be bred, no wonder if *Heat*, not only *sharper*, but together *greater*, be then stir'd up by over-sharp, and together over-fat *Choler* concurring, and a *most frequent Pulse* be joind with one *greater*, but not the greatest.

22. But, V. when *Spittle* is peccant with such a *Viscousness*, whence not only the *Fermentation of Food* is less commodious, but moreover usually two hours after they are taken in, the *Pulse* being now frequent, becoms still for some space more frequent, with *Heat*, seldom indeed manifest or troublesome to the Sick, yet sometimes notable to By-standers and Physicians, beside the encreas'd redness of the Cheeks; I judg that that Change haps, both as to the *Pulse* over-frequent, both continually, and yet more after Food taken in, and as to any kind of *Heat* then together observable, in as much as *Spittle* tending to the small Gut, the
Stomach

Stomach being empty, doth so vitiate the Effervescency of Choler, and the Juice of the Pancreas, that a Liquor proceeding from these three, is not only dull'd, but moreover Vapors somewhat flatulent arise from it, and indeed more plenteous and more volatil, when the most fluid Part of Food slides down to the Guts, usually two hours after it is taken in. Which Vapors being carri'd to the Heart, both provoke it to a more frequent Contraction of it self, and being carri'd every way together with the Blood, breed an Heat not so great indeed, or very sharp, or grievous and troublefom to the Sick, yet coupled with driness of the Skin enough manifest, had for a sign of Heat encreas'd; and with redness of the Cheeks, according to their notable oft encreas'd plenty and volatility; whilst in the mean time a more frequent Pulse indeed, and little and weak enough is observ'd; the Leanness of the whole Body concurring and daily encreas'd, by reason of the Blood made daily over-viscous and unfit to nourish the Body.

23. And now we have reduc'd all Synochal Fevers upon the account of their Causes, that are wont to be notably peccant in Mans Body to the four primary Differences, we think fit to consider, and here weigh in a few words also some of their Differences taken from the more grievous Symptoms oft accompanying them, after the Example of Famous Practitioners, and chiefly Great Platerus: not mentioning farther a Catarrhal Fever, of which we spake in Sect. 11.

24. And the first place will we give to a Burning Fever, among the Greeks *Καύστος*, so call'd, from its exceeding heat and burning most urging: Which exceeding Heat, because it is observ'd, not only in Continuals, Synochals, that have a Fit returning every other day, but also in Containing, Synochal Fevers,

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Fevers, we deservedly mention here a Burning Fever. To which no wonder if a dry Thirst, which you can scarce quench, be a present Companion.

25. Some give the second place to a Fever call'd *Leipyrus*, in which all the time of the Disease the *External Parts are cold*, while the *Internal Parts burn*.

26. These Fevers challenge the third place, that chiefly are troublesome with *Heat*, and an *obscure redness of the Jaws*, whence the *Tongue* also is not only *Dry*, by ting'd with a *blackish red Colour*. This Disease, by reason of the said Colour, is call'd *Brenne*, as well among the *Dutch*, as *Germans*, and is oft Epidemical.

27. The Fourth place we give to *Raving Fevers*, so call'd, because of a grievous Raving, (such as is oft observ'd in many Fevers) sometimes inclining to raging, which happens to the Sick in a few days space, and doth not a little trouble the By-standers; chiefly when such Fevers are Epidemical, and at length kill the Sick, *Convulsions* coming upon them. Constant *Watchings* use to accompany them, and a great *Pain in the Head* is wont to precede a Raving.

28. *Wasting Fevers*, so call'd, may take the Fifth Place, in which the Body is wont in a short time to be consum'd and grow lean.

29. In the Sixth Place we will mention *Malign Fevers*, suddenly dejecting the Vital Strength, without manifest Causes and Reasons, and unexpectedly killing the Sick; which for the most part are also wont to be epidemical. They also have the other Symptoms more mild usually then is wont, beside a weaker Pulse. But of these we intend particularly to treat in *Chap. 33*.

30. I. *Choler* both primarily, and only peccant,
not

not only in a Salt Acrimony, but moreover in a very inflameable Oiliness, is the Cause of a Burning Synochal Fever: Wherefore the greatest Pulse is wont to concur, beside one over-frequent, and in the beginning at least strong enough, together with troublesome Watchings, and an obstinate Thirst.

31. II. Because I do not remember that I ever observ'd the *Leipyrian Fever*, therefore I the more hesitate in assigning its true Cause; especially seeing those things do not satisfy, which others bring rather from their Prejudices, then from those things that ought to be observ'd in the Sick, and so be propos'd.

I my self have once lately observ'd such a Fever.

32. Yet if ever, of which I much doubt a *Leipyrian Fever* be *Synochal*, and I may conjecture something of its Cause, I think that it then consists of a Double Fever, *Choleric* and *Pancreatical*, and so indeed that such-like Vapors may be continually rais'd in the small Gut by the Juice of the *Pancreas*, universally over-sour, which may be confus'd only with the Mass of Blood, and breed a Sense of Cold in the habit of the Body, whilst a burning Heat is stir'd up in the Internal Parts by a Fever, due to Cholera more oily then sharp.

33. III. The Cause of a Fever having an obscure red Colour of the Tongue and Jaws accompanying, seems to be Cholera both over-sharp and fat, chiefly hurtful to Spittle, and the Glandulous Liquor of the Jaws, and more closely adhering to them, where it is expir'd in the form of a Vapor, together with the Air; wherefore beside the troublesome heat of the Universal Body, the Lips also sometimes are cloven and ulcerated, yea loaden with filthy Scabs.

34. But wherein that peculiar Constitution of

Q

vitia-

vitiated Choler consists, by which it is more adverse to the Mouth, and Humors carried thither, then to others; hitherto I cannot determine, unless it come by the *Oiliness of Choler*.

35. IV. The Cause of Raving Fevers, so to be call'd, from a notable and grievous Raving accompanying, at least for some days, is *Choler peccant*, both in a *Salt Acrimony* more, and an *increas'd Oiliness* less, that so diminishes the *visconsness of the Juice of the Pancreas*, which therefore causing a vitious Effervescency with it being made sharper, makes an *Humor* not much unlike *black Choler*, from which together with *Watchings*, the *Head-Ake*, hence *Raving*, at length a *Convulsion*, and lastly, *Death* it self is produc'd.

36. V. The Cause of a speedily Wasting Fever is *Choler*, quickly bringing such a Constitution to the Blood, by which the same becoms unfit what way soever to nourish the Body, and yet needing more plenty of Food, because of the Feverish Consumption of several parts.

37. But wherein that *Unfitness of the Blood to nourish* consists, whether it be bred of one sort only, or manifold in several Men, those things that hitherto are communicated to me, or observ'd by me, are not sufficient, whence I may give the solution of this Doubt.

38. And now having offer'd the most Differences of Synochals, both according to their various Causes, and the more noted and grievous Symptoms accompanying them, the next thing is, that at length we subjoin to their Causes, a *Method of Curing every one of them*, agreeing both with Reason and Experience, and therefore *Dogmatical*.

39. I. Therefore a Synochal Cholerick Fever may be Cur'd;

Cur'd; 1. By *Correcting the Salt Sharpness of Cholera*, chiefly by *more temperd Acids*, the *dulcifi'd Spirit of Salt*, &c. 2. By *Amending the Inflameable Oiliness of Cholera*, by *somewhat harsh Acids*, *Sempervive* the greater, *Plantane*, &c. 3. By *diminishing Cholera*, if it be observ'd never so little to abound, (which is usual) by *Cholagogue*s, but more mild and a little sour, or join'd with *Acids*, the *Creme* or *Crystals of Tartar*, *Salt of Tartar Vitriolated*, &c. and that soon in the beginning, or after that by the help of *Altering Medicins*, *Cholera* being over-intirely join'd with the *Blood*, begins to be again separated from the same, and made fit to be totally voided: which is chiefly to be expected from *Acids* oft mention'd, but more mild, or artificially temperd.

40. Among *Compound Medicins* for correcting the salt sharpness of *Cholera*, the following *Decoction* oft to be us'd in a day in a small quantity and warm may conduce.

Rx. *The Root and Leavs of Sorrel* M. ii. *The Leavs of Strawberries, Violets, of each* M. i. Boil them in *Barley-Water*, adding to $\frac{3}{4}$ xx. of what is strain'd; *Syr. of the Juice of Citrons* $\frac{3}{4}$ iii. *Sp. of Salt dulcifi'd* $\frac{3}{4}$ ss. M.

41. To Amend the *Oily Inflameableness of Cholera*, the following *Decoction* may be prescrib'd in like manner to be us'd.

Rx. *Plantane Root* $\frac{3}{4}$ i. *The Leavs of Sempervive the greater, Purlan, of each* M. i. Boil them in pure *Water*, adding to $\frac{3}{4}$ xx. of what is Streind; *Syr. of Purslan* $\frac{3}{4}$ iii. *Oil of Sulphur prepar'd Per Campanam*, what suffices for a grateful Acidity. M.

42. To separate *Cholera* again from the *Blood*, being over-intirely mixt with it, the following *Decoction*

coction may conduce, being us'd after the same manner as the former.

R. The Root of Dandelion, with its Leavs M. ii. The Herb of Fumitory M. i. Boil them in pure Water, adding to ʒ xx. of what is Straind simple Syr. of Succory ʒ iii. Salt of Tartar Vitriolized ʒ i. M.

43. Lastly, To diminish or empty out Choler Loosned from the Blood by the preceding Decoction, or a Medicin like to it, and dispos'd to be voided out gradually and mildly together with the rest abounding, or turgid in its Bag, the following Decoction to be taken twice or thrice a day warm to ʒ iii. or iv. may serve, beside others, both single and compounded, oft noted before.

R. Succory-Root ʒ ii. Endive-Leavs M. ii. Damask-Rose-flowers M. i. Creme of Tartar, or Crude Tartar ʒ ii. Boil them in a glaz'd Earthen Vessel in pure Water; adding to ʒ xx. of what is straind, Syr. of Succorie with Rhubarb ʒ iii. M.

44. Yet because of the Cure of Fevers arising from Choler any way peccant, it suffices not to direct their Cure to Choler it self, Their Cause, whereby a Fever will neither be encreas'd nor sed; but farther we should attend to all the Symptoms accompanying these Choleric Fevers, and to all Changes therefore happening to both Bodies, as well the Containing as Containd, more things are to be us'd for their intire and perfect Cure.

45. Wherefore by reason of an Exceeding Heat stir'd up, and of the Pulse encreas'd in Greatness, following a greater Rarefaction of Blood by the Fire encreas'd in the Heart, least the Vessels at length being by degrees more and more distended shou'd burst, or be

be open'd any other way, or *over-Vital Fire* be suffocated because of the hindred motion of Blood in the Heart, or elsewhere by its over-rarefaction filling its Vessels, a Place is to be prepar'd for it by *letting* a sufficient quantity of Blood out at a Vein open'd in the Arm, Hand, Foot, or elsewhere.

46. And by this *letting out Blood*, because it appears by daily experience *that the heat of Blood is not a little diminish'd*, thus far also an opening a Vein is to be mention'd; whether that troublesome Heat be temper'd because of sharp and fat Vapors more plentifully effus'd together with the Blood, or it happen by any other Cause that may diversly be feign'd, according to any Bodies prejudice.

47. *Thirst* then very importunate, may be allay'd by degrees by the Decoction prescrib'd in Sect. 40. & 41. or the Tincture of Roses describ'd in Sect. 20. of the preceding Chapter, or the following Julap, or any like it, oft taking a little of it, which I prefer before much Drink drunk at once, because every sudden change is deservedly judg'd by Hippocrates hurtful to Nature, and therefore dangerous.

Rx. Barley-Water $\tilde{\text{z}}$ xx. Syr. of Purslane $\tilde{\text{z}}$ ii. of the Juice of Citrons $\tilde{\text{z}}$ i. Spirit of Salt dulcis'd $\tilde{\text{z}}$ ss. M.

48. The thick Juice extracted out of certain Seeds by the help of any Water, and the Mucilage, such as we draw out of the Seeds of Quinces, Flea-wort, &c. with Rose-Water, or any other that is convenient, will assuage the troublesomely Dry, or also Cinnamon Tongue. Some of this should be kept for a space in the Mouth, and again spit out; which should oft be repeated.

49. The same may be obtain'd, if the Leaves of Sempervive the Greater have their out Rind peel'd

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off, and put into pure or Rose-Water, hence oft laid upon the Tongue, and be ever and anon renew'd.

50. *Pure Water* will do the same, if a little of it be kept in the Mouth, and again spit out after gargling and oft repeated. Instead also of pure Water, a *Decoction of Turneps*, or a mild *Emulsion*, such as follows, may be us'd.

Rx. Cleansd Barley boil'd till it crack ζ ii. *With its Decoction make an Emulsion of* ζ xv. *adding Ju-lap of Roses, or simple Syr. of Violets* ζ i. M.

51. To this end also *the Yolk of an Egg* beaten and mixt with ζ iii, iv, or v. of *Rose-Water*, or any other grateful to the Sick, and a little *Sugar* may in like manner be us'd, a spoonful of it at a time being taken into the Mouth, and afterward either swallow'd, or again spit out.

52. II. A *Glandular Synochal Lymphatic Fever* may be Cur'd; if 1. soon in the beginning, whilst *Shivering yet continues*, the following *Mixture* be taken by spoonfuls in short intervals.

Rx. Parsley-Water ζ i. \mathfrak{ss} . *Fenel, simple Treacle-Water, of each* ζ vi. *Syr. of Fenel* ζ i. *Sp. of Salt dulcifi'd* \mathfrak{D} i. M.

For by the help of this, *the Shivering will not only be diminish'd, but moreover the sour sharpness of Lympha temper'd, and the Heat that would afterward follow, will at least in part be prevented.*

53. If 2. During *Heat*, such Medicines be given, which will overcome the *Fire that is more Corroding then Burning*, and be compounded of temper'd Acids, not neglecting Volatil Salts. The following *Mixture* therefore oft taken by Spoonfuls may conduce.

Rx. Water of Parsley, Fumitorie, of each ζ i. \mathfrak{ss} . *of Fenel* ζ i. *Sp. of Salt dulcifi'd* \mathfrak{D} i. *Volatil Salt of Amber* \mathfrak{D} \mathfrak{ss} . *Landanum* 2 Gr. *Syr. of the five Roots* ζ i. M.

54. When *Thirst* also urgeth, the following *Decoction* may be prepar'd, and as the matter requires given, abstaining from over-much drinking.

Rx. *The Roots of Vipers Grass, of Smallage, of each* ζ i. *Crude Barley* ζ ii. *Boil them in pure Water, adding to* ζ xx. *of what is straind, Syr. of white, of red Poppies, of each* ζ i. *℞. Sp. of Salt dulcifi'd* ζ ℥. M.

55. If 3. *Lympha* abounding in the Body, and in a manner at least temperd by the mentiond, or such-like Medicines be *Diminish'd* and *Empti'd* out by mild *Hydragogues*. To which end the following *Decoction* may conduce.

Rx. *The Root Parsly, Fenel, Eringo, Danewort, of each* ζ i. *the Leavs of Seabind-Weed* ζ ℥. *Boil them in pure Water, adding to* ζ xx. *of what is straind, Syr. of Diacnium* ζ iii. M.

Take ζ iii or iv of this *Decoction* twice or thrice a day, till a commodious Evacuation of the Serous Humors follow.

56. They who prefer a *Conserve*, may oft take the quantity of a Nutmeg of this following, which

Rx. *Conserve of Damask-Roses* ζ i. ℥. *Electuary of the Juice of Roses* ζ i. *Powder of Jakap Root* ζ ii. *of Creme of Tartar* ζ i. *with a little of the solutive Syr. of Roses, M. for a Conserve.*

Our *Hydragogue Electuary* describ'd before in Chap.

7. Sect. 55. may also avail, being very mild and grateful.

57. If 4. a Lymphatic Fever siezes on a *Pblethoric Body*, and especially in the Summer Constancy of Air, I would not dissuade a mean *Blooding*, especially of those that are accus'tom'd to it; seeing they bear it better and more commodiously.

58. But if 5. a Lymphatic Fever come upon one *Cholerie*, then by reason of *Choler*, not only drawn into consent, but making an Heat greater then is wont, both *Altering* and *Purging* Medicins may be us'd judiciously to be compos'd of these propos'd before, and in *Señ. 40, &c.* For Example, take this following Decoction, satisfying both Indications, if us'd in a mean quantity, till a moderat Purging follow.

R. *Succorie*, *Fenel-Root*, of each ʒ i. *Fumitorie*, *Burrage-Leav*, of each *M. i.* Boil them in *Barley-Water*, adding to ʒ xx. of what is strain'd *Syr. of Succorie* with *Rhubarb*, of *Diaenicum*, of each ʒ i. ʒ. *Sp. of Salt* dulcis'd ʒ ʒ. M.

59. If by reason of *Choler* vitiated by Lymphatic great Heat follow, by reason also of it Bleeding may avail, as we shew'd you before in *Señ. 45, 46.*

60. If Lastly 6. the Lymphatic Fever be *Catarhal*, then because the Glandul's that are in the Head are affected before all the other Conglobated Glandul's, Medicins are to be prepar'd so, that the Part most affected be chiefly minded. To which end the Restoring of the Glandul's of the Head may be tri'd by *Fuming*, but among *Universals*, both *Altering* and *Emptying* Medicins may be us'd, which are actually observ'd, most appropriated and useful to the Head; yea, *Evacuation peculiar to the Head* should in time be had.

61. You may therefore *Fume* with *Amber*, *Masich*, and such-like; which should not only be receiv'd, as oft as can conveniently be, in at the Nostrils and Mouth, the Head being cover'd, but all the Head-Cloaths should be fum'd with the same, and soon after put on, lest the power of the Fuming be lost by delay.

62. Let this following be an Example of a *Universal Altering, and Evacuating Decoction* to be us'd as the former.

℞. *The Root of Pionie, Vipers-Grass, of each* \bar{z} i. *of Smalage* \bar{z} ss. *the Leavs of Betonie, Violets, Primrose, of each* M. i. *Gummie Turbitib* \bar{z} ss. *Mecchoacan-Root* \bar{z} ii. *Crude Tartar* \bar{z} i. ss. *Mountain Siler-seeds* \bar{z} ii. *Boil them in pure Water, adding to* \bar{z} xx. *of what is straind, Syr. of Diacenicum* \bar{z} ii. M.

63. The *Particular Evacuations of the Head* are obtaind by *Errbins and Masticatories*. The new *Leavs of Betonie or Majoran* being rubd between your Fingers and put into the *Nostrils*, may afford a benign *Errbina*; and the *Sp. of Salt Armoniac* appli'd to the *Nostrils* in a little *Bottle* with a long *Neck*, will much conduce, because it both loosens the *Viscous Humor* that obstructs the *Glandul's*, and tempers the *saltish-sowr humor* thence bred.

64. *Mastich* alone, or the *root of Pellitory of Spain* chewd, draws down *Phlegm and Serous Liquor* into the *Mouth* out of the *Head*, to be spit out.

65. III. A *Pancreaticall Synochal Fever* may be Cur'd; If 1. *more mild Medicins* be us'd, that Temper the *Acid Humor*, as are all *Lixivial Salts*, but chiefly these *Volatil and Oily*. For which reason *Opium* avails exceedingly here, and every *Opiat*, and *Aromatic Medicin*: Of which we have prescrib'd several *Compoundd Medicins* all over in this *Work*. Yet with an over-plus take this following *Mixture*, to be us'd by *Spoonfuls* so long as *Cold* urgeth.

℞. *Parsley, Grass, Fenel-Water, of each* \bar{z} i. *Aqua Vita of Matthiolus, or simple Treacle-Water* \bar{z} x. *Laudanum* iii. *Grains. Syrup of the five Roots,* \bar{z} i. M.

66. If,

66. If 2. Heat now urging, by Reason of Choler vitiated and drawn to consent Medicins be given, fit to temper both the Acid and salt Acrimonie together, and therefore prepar'd of two sharp things but broken. To which end the following Decoction may avail, drunk oft to some ounces.

R \acute{e} . Smallage, Succorie-Root, of each \bar{z} i. Agrimony-Leaves, Fenel, Fumitory-tops, of each M. i. Boil them in Barley-Water, adding to \bar{z} xx. of what is strain'd, Syr. of Byzantium \bar{z} iii. Sp. of Salt dulcifi'd \bar{z} i. or Sp. of Nitre xii drops. M. for a Decoction.

67. If any like a Mixture better, you may prescribe the following to be taken by Spoonfuls.

R \acute{e} . Carduus, Fenel-Water, of each \bar{z} i. β . simple Treacle-Water \bar{z} β . Spirit of Salt dulcifi'd \bar{z} i. Laudanum iii. Gr. Syr. of Fumitory \bar{z} i. M.

68. If 3. this Fever be troublesome by permanent Anxieties about the Midriff, by reason of over-viscous Phlegm together concurring, and resolv'd into Flatulent Vapors, Oily Volatil Salts, and distild Oils, added in a small quantity to the preceding Mixtures may conduce. For Example ;

R \acute{e} . Fumitory, Mint-Water, of each \bar{z} i. β . Matthiolum his Aqua Vita \bar{z} β . Sp. of Nitre viii drops. Laudanum ii Gr. distild Oil of Mace iii drops. Syr. of Mint \bar{z} i. M.

69. If 4. Gripes of the Belly chiefly urge, because of the Humor of the Pancreas not only more Sowr, but together more Tart, oily Volatil Salts will chiefly conduce, or made Oily distild Oils being added, and put to the Mixtures to be taken by Spoonfuls. For Example take this following Form.

R \acute{e} . Mint,

Rx. Mint, Fenel, Parsley, Scurvygrass-Water, of each

$\frac{3}{4}$ i. Sp. of Nitre x drops.

Laudanum iii Gr. * Sp. of

Salt Armoniac $\frac{3}{4}$ i. Oil of

Anise vi drops. Syr. of Fe-

nel $\frac{3}{4}$ i. S. M.

* The Author approv'd
not of that Sp. distill'd
on Quick-Lime, but
only on Salt of Tartar.

70. If 5. this Fever be grievous *with Bloody Purgings*, or at least *join'd with sharp Pain*, beside the newly mention'd Mixtures, the Clyster prepar'd of Cows Milk, Turpentine and the Yolk of an Egg, such as that in Chap. 13. Sect. 51. may chiefly conduce, being oft injected during the Disease.

71. IV. *A Salivary or Phlegmatic Synochal Fever may be Cur'd*; If 1. *the Viscousness of Spitile*, and hence *of Phlegm be Corrected and Amended* by Medicins, either *Aromatical*, that is, having an Oily Volatil Salt, or temperd *sour* things, or *both* mixt together, and that according to the various Constitution of the other Humors Choler, and the Juice of the Pencreas: Of which sort many are here and there, and also in this Chapter propos'd, together with convenient Forms to practice with successfully. See Chap. 14. Sect. 45, &c.

72. If 2. *Flatulent Vapors* bred by it, raising both in the Stomach and Guts, first *a Distension and Inflation*; afterward an *Irritation* in the Heart, an *over-Frequent Pulse*, a *Wheezing* in the Lungs; at length *sleepiness* in the Brain be Discus'd, and their new rising Hindred. To this end Medicins mention'd in Chap. 14. Sect. 56, &c. may conduce.

73. If 3. the *Appetite be dejected*, it should be Restor'd by the *dulcifi'd* * Sp. of Salt, Elixir Proprietatis, and such like temperd Acids mixt with ordinary Drink, or with other

* Unless it be dulcifi'd, it is too corrosive.

Liquors

Liquors and Mixtures to be us'd by Spoonfuls, primarily convenient for the Distemper ; and if besides *Deprav'd* more or less, it should be *Corrected*.

74. The *Cure of Synochal Fevers*, nam'd from *grievous and very urgent Symptoms*, ought to be the same which we propos'd, unless that then, as always in other Cases, *there ought to be an exact and careful account had of those most grievous Symptoms*.

75. For all the Professors of Physic are deceiv'd, and do no less injure their Students then Patients, who think, at least teach, that any Diseases may be cur'd by Art, when their grievous, and therefore urging Symptoms are neglected ; all which they would have cease of their own accord, when the primary Diseases are Cur'd ; seeing that we daily observe with great loss of Mortals by their stubborn obstinacy, and negligence of these smattering and prating small Physicians, the Sick are as oft sooner taken away by their grievous Symptoms, then the Diseases cur'd alone are remov'd by their Medicins.

76. Add that Medicins convenient to remove or diminish any Symptoms amend, and together correct the depravations of Humors, or solid Parts, on which those Symptoms immediatly depend. The Diseases therefore are together remov'd, whilst the Symptoms are remov'd : Neither do we doubt with some famous Physicians, to refer the Depravations of Humors to the number of Diseases ; because the Parts containd are not less requir'd to the Compleatness of the whole Body and Functions, then the Parts Containing.

77. I. Therefore to a Dogmatical *Cure of Burning Synochal Fevers*, *Blood is forthwith to be Let out* plentifully and frequently enough, whereby that Great Heat may be diminish'd or remov'd : which is

so much the more to be done, if a *Plethora*, that is, abundance of Blood be present.

78. Blood being Let, as much as the Patients strength can commodiously bear; while *Choler* is yet *turgid*, and there is hope of carrying it down to the Guts, and anon with success of carrying it out, a mild *Cholagogue*, such as is the Decoction noted in *Señ. 43.* may be safely given, and that an hour after the open'd Vein is tied; by which if in a short while, that is, in two hours space they go not to Stool, more therof ought to be taken till it purge; which succeeding *Altering Medicins*, and such as allay Heat and Thirst, are oft to be us'd; of which we have spoken in *Señ. 47.* and elsewhere.

79. Neither doth it suffice to let Blood, or purge *Choler* once, but those Evacuations are oft to be iterated, not neglecting *Altering Medicins*, till by the diminish'd feverish heat it appears, that the Cause of this Fever is Diminish'd, or remov'd, or overcom'd.

80. II. If I have rightly conjectur'd, when I suspected a *Leipyrian* to consist of a *Choleric and Pancreatic* Fever, it may be Cur'd, by using Medicins which correct the exceeding sowness of the Juice of the Pancreas, and abounding oiliness of *Choler*, and concentrate any sower thing, and imbibe, and temper any Oily Liquor.

81. They that do both these, are Pearl, Coral, Crabs-Eys, and all kinds of Shells, chiefly those calcin'd, Chalk, &c. if they be oft taken in a small quantity.

82. Besides Medicins may be us'd that sometimes temper Cold more, sometimes Heat, as this or that doth more molest the Sick: Such as are oft before mention'd, more being to be prescrib'd in the next following Chapter.

83. III.

83. III. A Fever having the Tongue and Jaws colour'd blackish red, & a dry Heat accompanying may be Cur'd, if beside Universal Remedies convenient to that Fever enough burning, and such as are to be sought from what is already said, those be in special us'd which are observ'd to conduce to the Heat, Driness, and vitiated Colour of the parts of the Mouth.

84. Gargarisms are chiefly mention'd, prepar'd with Water, or the Decoction of Plantane, Lettice, Night-shade, Purslan, Privet, Strawberry-Leaves, Prunel, or Brunel, (which name they say was given it from that Disease, because it is believ'd to be proper for it before all others) Hony-suckle, &c. the sour and tart Juices of Blackberies, Barberies, Sorrel, Citron, &c. being sometimes added.

85. Here also is commended, among Chymical things, Nitre prepar'd with Sulphur, and therefore call'd Salt Prunella.

86. Let this following be the Form of the best Gargarism.

Rx. Prunel, Willow, Strawberry-Leaves, of each M. i. whole Barley 1 Pugil. make a Decoction in pure Water, dissolving in \bar{z} xii. of what is strain'd; Diamorcon \bar{z} i. Lapis Prunella \bar{z} ss. M. to be a Gargarism; with which warm let the Sick oft wash and gargarize his Mouth.

87. In this Disease also, for the most part an Opening of the Ranine Veins under the Tongue, conduceth, and that as oft as they are observ'd to be tumid, and manifest to us the Quinsie at hand, or molesting. For it is no new thing that the Quinsie should be coupled to this Fever.

88. Pouderd Chalk made with Creme to the consistency of a Liniment will assuage, dry and remove those filthy Scabs of the Lips being appli'd to them;

as also the white Ointment Camphorated in like manner us'd.

89. IV. *A Fever attended with a grievous and furious Raging, may be Cur'd*; by giving, beside what is before mentiond, those things especially, which will not only promote Sleep, but powerfully and mildly temper a sharp choleric Humor, and so assuage its over-sharp Effervescency with an Acid.

90. To this end *Opium* will conduce beyond any commonly known Medicine, and any Opiat thence prepar'd: Yet do I judg any fixt Mineral Sulphur, of Vitriol or Antimony more excellent.

91. *Opists* may be us'd both Internally and Externally: many Forms whereof we have given before, and in special in Chap. 28. Sect. 22, 25, 30, & 40. whence they may be sought.

92. V. *A speedily wasting Fever, may be Cur'd*; by using and mixing with the other Medicins, those that powerfully, though mildly correct Choler too sharp together, and fat: To which end I commend dulcifi'd Spirit of Salt before many others, and others such-like first temperd by the Spirit of Wine, to be mixt with other Altering Medicins prescrib'd here and there in this Chapter.

93. But always attend to the other Symptoms, more or less differing in every Patient, and therefore requiring some difference of Medicins in a right Method of Curing: wherein the prudence and judgment of a Physician diligently examin'd, sometimes wonderfully appears; seeing that the excellent Precepts of others formed by long use of things do indeed direct, but not contribute Judgment to a Younger Physician.

94. We intend shortly to give you the Cure of Malign Fevers in the following 33 Chapter.

CHAP. XXX.

Of Intermitting Fevers.

1. *Intermitting Fevers* are such as molest the Sick with divers Fits, which of their own accord do wholly depart, and then come again anew.

2. For as oft as the Sick are troubled *with a Fever*, returning either in certain or uncertain Intervals, no Error being committed in the Non-natural Things, by *Internal Causes*; so oft it's said to *Intermit*, that is, not continually afflict, but return by Fits, and again wholly cease.

3. As oft on the contrary as a *Fever* is stir'd up, not by *Internal*, but *External Causes*, and chiefly by one or more Errors committed in the Non-natural Things, so oft it is call'd *only a Fever*; till it may probably be thought to prove either Continual, and that of *One day*, with or without Fits, by *Symptoms accompanying it*; or else after some certain days its kind may certainly be determin'd.

4. For they ascribe too much to themselves, that do vainly boast to obtain a fame of quick Judgment amongst ignorant People, (though oft taken in Mistakes) that they can certainly determin even in the very first Invasion, and at the beginning of the Invasion of any *Fever*, whether it will be but of *One day*, or with or without Fits; and indeed whether it will be a *Quotidian*, *Tertian*, or *Quartan-Fever*. Which Thraſonic boasts we willingly yield to them, who feed themselves and others with sinoak and delight in Wind.

5. The

5. The different Kinds of Intermittent Fevers, are taken; 1. From the divers *Interval*, sometimes shorter, sometimes longer, which happens between the Fits. 2. From the *grievous differing Symptoms* which use to accompany them.

6. I. By reason of the divers *Intervals*, *Intermittent Fevers* are divided into *Quotidians*, *Tertians*, *Quartans*, *Quintans*, &c. in so much as they return either every day, or in the Third, Fourth, or Fifth Day, &c. which we have oft told you we observ'd in *Chap. 27. Sect. 13, &c.* to be sometimes Single, other-times *Manifold*, *Double*, *Three-fold*, or *Compounded of Divers*, adding the Signs that distinguish them from one another.

7. II. By reason of the *grievous Symptoms*, as we have already said in *Chap. 29. Sect. 23, &c.* of *Synochals*, *Intermittent Fevers* get divers Names. For, I. they are sometimes observ'd *Chill*, not only with Cold chiefly, but with Cold only, troublesome; so that sometimes, and most frequently a gentle Heat, sometimes and more seldom none at all doth follow.

8. Such Fevers, even always Cold, we have had in our Academic Hospital, so manifest, that not only at the beginning, and augmentation, but even in the vigor and declination, yea, at the end of the Fit, that is, always both to their Own, and the By-standers, and also the Physicians perceivance, the Sick were troublesomly all over cold, never warm, much less hot in any part. And these grievous Chill Fevers are perhaps always *Quotidians*.

9. But the more troublesome Intermittent Fevers do so oft come with *Cold* preceding, as with *Heat* following, that they have taken their Name from it; not only in the most of the Regions of *Germany*, and

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others

others of the North, but most of the common People think they have the Fever only so long as they endure sharp Cold, judging themselves freed from the Fever so soon as Heat often not at all, or but a little troublesome or grievous begins. And then such most commonly are *Quartans*, sometimes *Tertians*.

10. II. Of Intermittent Fevers are *Burning*, and chiefly *Tertians*, in which a short and light only, or almost no Cold is noted, or a gentle Shivering Fit to precede Heat, and extreme Burning, and that oft remains long, and is always troublesome after the Fit is ended; So that sometimes a new Fit returns before, that the great Heat of the former doth wholly remit.

11. But it is not necessary, that therefore the Fever should be thought to have remain'd together with the Heat remaining, because the Pulse remits of its former swiftuess; but the increased Heat of the Body does not return to its former temper: Whence sometimes also a Continual Fever by degrees follows such an Intermittent Fever, and becomes a Continual Tertian.

12. But although sometimes Intermittent Fevers trouble the Sick with Cold only, or Heat, yet, for the most part, they are molested with both, and Heat uses to succede Cold; and then sometimes Cold, sometimes Heat does most oppress them, or continue longer, rarely afflicting them equally. For they are utterly deceiv'd, who by their false Prejudices, and against daily Experience, do falsely teach their Pupils, that the preceding Cold is overcome by two-fold, three-fold, or four-fold Heat succeeding, either upon the account of its Continuance or Vehemence.

13. For, briefly to describe the History and Manner of the Invasion and Change of the most of Intermittent

mitting Fevers, according to their two-fold newly mention'd Symptoms most frequent above others, and most noted, but withal not neglecting the well, there is wont to precede as a Fore-runner, a *Tanning* and *Gaping*, and sometimes a *Universal Weariness* of the *Lims*, or *Unquietness*, rarely *Sleepiness*, and more or less to continue and molest.

14. To one or more of these troubles there succeeds for the most part (at least as far as I could observe in my Patients) *Coldness* in the *Region of the Loins*, and truly sometimes more grievous, other-times more light; which a little after goes in the *Passage of the Back-bone*, as well upward as downward, to all the *Remote Parts of the Body*, and which not only manifests it self in the *Fingers* and *Toes*, but in the *Nose*, *Ears*, *Chin*, *Tongue*, yea and moreover in the *Whole Skin*, afflicting and molesting the inward as well as the outward parts.

15. It is rare that no Cold at all is perceiv'd in the *Region of the Loins*, or not but late. Which sometimes I have observ'd troublesome only, to the Sick, in the *Middle of the Belly*, where the *small Guts* are wrapped round.

16. But even sometimes in the *Inner Parts of the Head*, and have observ'd an exceeding grievous Cold, and that now in the *back part of the Head*, now in the *fore-part of the Head*, other-times in the *Crown*.

17. A *Shivering* uses to accompany a lesser coldness, but *Stiffness* a greater.

18. During Cold, the *Pains* are *Corroding*, *Beating*, *Piercing*, with *Gripes of the Belly*, and other certain troublesome Symptoms, from which anon we intend to name some kinds of Intermittent Fevers.

19. Upon the beginning of Cold, you may observe, that as the *Pulse* grows more frequent, it is both

Less and Weaker, and while it still troubles, it's so *Little*, that often it can no longer be Felt.

20. Where the Cold begins to remit, most commonly *Anxieties about the Midriff*, are wont to be the beginnings of *Heat* even just following.

21. Yea even with *Heat*, *Thirst* by degrees is kindled and encreas'd; for seldom during Cold does it trouble; but sometimes notwithstanding.

22. Farther, with *Heat* the *Pulse*, continually more frequent, is by degrees made *Greater*, and for the most part also *Stronger*. For if it be then *Little* or *Weak*, the Fever is judg'd *Malign*, or a great want of *Strength*, and so the danger is encreas'd.

23. When the *Heat* is augmented, commonly there attends *Drowth of the Tongue*, more vehement, and sometimes *Difficult*; *Heat of the Head*, and *Pain*, *Pulsation of the Temples*, *Watchings*, and sometimes *Raving*.

24. Last of all by degrees while the *Heat* remits, *Sweat* is usually wont to spring out more or less, or at least a sufficient voiding of *Urin*. And then the Sick is free again for a time from all, or at least the most Symptoms by a various Sleep, one while more quiet, other whiles very unquiet and grievous, with *Dreams* or *Wakings* usually concurring; till a new *Feverish Fit* coming on, either the same, or fewer, or more, do afflict him more or less; which at length, either of their own accord, or by Art, are wholly or at least in part taken away, or take him away.

25. And so are many tormented with Intermitting Fevers, whilst Cold precedes, and Heat succedes: although sometimes, (that we may go forward unto the rest of their Accompanying Symptoms). III. They are observ'd *Epiale* so call'd, *mixt Fevers*, in which every where Cold and Heat together vehemently oppress.

26. IV. They are call'd *Thirsty Fevers* from Thirst importunate and past quenching; which are not only observ'd usually in burning Heat, but even whilst Cold troubles; so that though the Sick do drink continually, yet nevertheless they do thirst. Nor have the Sick only this great trouble, although they much indulge themselves to too much Drink, but even Physicians also in curing this froward Thirst.

27. V. Let us call them *Hungry Fevers*, to which ravenous and unsatiabie Hunger is joind; so that unless Meat be given, even whilst the Fit continues, the Sick takes Faintings, and other troublesome Symptoms. For although the Appetite of most is Lessend or Abolisht sometimes wholly; nevertheless others have, not only a moderat but greedy Hunger together with the Fit.

28. VI. *Heart-aking Intermitting Fevers* do molest, often with an unspeakable and intolerable Pain accompanying, about the upper Orifice of the Ventricle, and with this Symptom chiefly are they grievous, and sometimes Petilential, whether attended with Vomiting or no.

29. VII. Moreover Fevers seem to be nam'd *Gripping or Colical*, from the painful Gripes of the Belly, or which are wonderfully troublesome with Distensions, coming or departing as the Intermitting Fever comes or goes.

30. VIII. *Swouning Fevers* get their name from Swouning Fits invading the Sick, together with the Fever, very grievous and dangerous, and therefore in no wise to be pass'd over with silence.

31. IX. Intermitting Fevers are observ'd from their accompanying Hypochondriacal Suffocation, commonly call'd *Hysterical*, with a Fevery Fit grievously

vously afflicting, (chiefly Women) are to be nam'd *Strangling Fevers*, seeing indeed sometimes they choke and kill the Sick, although they be not also very grievous, as to other Symptoms.

32. X. Let us now join *Difficultly breathing Fevers* to the abovesaid, so nam'd from the difficulty and wheeving of breath, which wonderfully and miserably vex the Sick, with or without *Papitation of the Heart*. These I have oft observ'd to begin with *distention of the Abdomen*, and *Anxiety of the Midriff*, the *Pulse* being *Little, Weak*, and *Swift*, *Cold* and *Pain* also troubling the *Region of the Loins*. Which if *Wind* break out either upward or downward then the Fit was *lighter*, if not, more tedious: For after the *Distention* and *Anxiety* had lasted an hour or more, both decreased gradually, and also a *difficult Breathing* and *great Wheeving* was stir'd up, and indeed so great, that the Body could not endure even the least stirring or motion of it self, the *Pulse* gradually growing *Greater* rather than *Stronger*, and continually *Swifter*, together with the *Veins* all over *fore sweld*, which were so small, that they could scarce be seen when the Fit was not. This *Difficult Breathing* sometimes molests more grievously, other times more lightly, again a longer or shorter space; whence sometimes fit Medicines for the *Hypochondriac Strangulation* have been us'd with success. And at length the Fit ended more with a *Mistress* then with a *Sweat*, till a new one came on, seldom a *Quotidian*, oft a *Tertian*.

33. XI. *Asthmatic Fevers*, so call'd, from short-windedness accompanying, sometimes grievous, sometimes not, are usual. In which likewise the *Distention* and *Anxiety* of the *Abdomen* usually precedes; and when they remit, then follows *Difficulty of Breathing*,

Breath, truly Asthmatic, which together with the Fit continuing long enough, and sometimes for one, or two days, decreases, and at length ceases; sometimes it continues after the Fit is gone. I have seen an Asthmatic Fever of this sort *returning for a time in the fourteenth day*, and afflicting the Sick sore enough for more days every time, unless it were lessened both as to its pain and continuance, with fit Medicines.

34. XII. A Cough is not only wont to accompany these above describ'd Asthmatic Fevers, but at other times when there is no Asthma at all, from which Cough then sorely troubling the Sick, above other Symptoms, I thought they might very fitly be nam'd *Coughing* or *Bechical Fevers*. For so soon as the Fit increases, a Cough begins to molest, for the most part Dry, seldom and that by chance is it *Moist*; to wit, as oft as a various Humor mov'd, either of its own accord, or by a Fever, or by a dry Cough slides down to the Lungs.

35. XIII. Amongst Intermittent Fevers also are observ'd *Catarrhal Fevers*, from a Catarrh descending not only upon the Lungs, but even also to other Parts, moving and ceasing with the Feverish Fit. For a new Humor does not disperse it self after the Feverish Fit, but that which has already dispersed it self, does not return or forsake the part grieved, although the Feverish Fit cease.

36. XIV. Sometimes Practitioners reduce *Gouty Fevers* to the Catarrhal, because they think the Gouty Fevers arise from the other. And because I judg that a different Humor which breeds the Gout is carri'd to the Jaws through the Arteries together with the Blood, I altogether think the Arthritics are to be distinguisht from the Catarrhals: As often

as I had opportunity to observe very exactly the Rise and Progress of the Gout by my Patients faithful narration, even so oft I have minded that it has risen together with a Continual or Intermittent Fever: Whence the Gout was not a little augmented by the return of the new Fits of the Intermittent Fever, till it was either chang'd into a Continual Fever, or ceased of its own accord, or was Cur'd by Art, the Pains of the Joints persevering nevertheless.

37. XV. As Continual, so Intermittent Fevers are oft attended with *Mad and Raving Fevers*, call'd by the Dutch *Rasende Koortsen*, from their *Raving*, seldom indeed during *Cold*, but oft when *Heat* does follow the *Head-ach*, and *Pulsing of the Temples*, and then ceasing by degrees with the Fit again, and that after Sleep, either pleasant or troublesome with wakings.

38. XVI. The *Emetic*, or *Vomiting Intermittent Fevers* are so call'd from the Vomiting that sometimes continually, other-times by intervals are very troublesome, either when the *Cold* begins, or in its continuance, or in the appearance or increase of *Heat*: so much the more grievous, that the Sick are not thereby eased, but more griev'd. Whence that Vomiting is deservedly judg'd Symptomatical, and not Critical.

39. XVII. So Intermittent Fevers also are observed from a great and frequent Purgings, and sometimes also with Gripes much troubling and weakening the Sick at divers times of their Continuance, therefore to be call'd *Emptying or Cleansing Fevers*.

40. XVIII. The Fits of most Intermittent Fevers use not only to end with a Sweat good for the Sick, and therefore then to be esteem'd Critical; but oft

oft for the moſt part of the Fit a great Sweat, hurtful to the Sick, and therefore Symptomatical, moſt commonly hot, ſeldom cold Breaths out of the whole Body, or a particular part, as the Head, Breast, Abdomen, or Lims, which makes the *Sweating Fevers*: Such alſo are Continual Fevers obſervd to be, that are known by the Name of *The Engliſh Sweat*.

41. XIX. But *Intermitting Fevers* are alſo obſervd with almoſt a continual Urining, and that Symptomatical, weakening the Sick, not Critical and eaſing them; which therefore may fitly be call'd *Uretic Fevers*.

42. XX. Laſtly that I may put an end to theſe partly new names, *Intermitting Fevers* are obſervd to be accompanied with a grievous and troubleſom Spitting, and therefore to be nam'd *Spitting Fevers*.

43. Without doubt there are yet many more Kinds and Differences of *Intermitting Fevers* to be nam'd from their grievous and moleſting Symptoms; but let it ſuffice to have mentiond the moſt notable ones, which I being much hurried could call to Mind.

44. If any ask me the *Causes* of *Intermitting Fevers* differing ſo many ways among themſelves; I anſwer, That one cauſe makes an *Intermitting Fever*, as *Intermitting*, and another makes it of this or that Kind, in as much as it returns in this or that day, or is accompanied with theſe or other grievous Symptoms.

45. If any where, certainly in aſſigning the true Cauſe of all and every *Intermitting Fever*, the great difference of Doctors of Phyſic is obſervd, laſtly mine alſo perhaps varies not a little from the Opinion of the reſt; I now intend more deeply to enquire, more accuratly to examin, and explain more exquisitely then ever I did before, all this hard and intricat buſineſs chiefly upon their account who never heard

or are like to hear me publicly, or ever have had or may have conference with me about this Matter: Which I will do as much as I may for my Concerns, and Distractions daily encreasing, rather then decreasing, and therefore perpetually withdrawing my Mind from an attentive Meditation, wholly requisite here, my privat Auditory tarrying for the same, and the Printer daily urging.

46. There is therefore requir'd to produce an Intermittent Fever; that is, which returning sometimes in certain, other-times uncertain, now in shorter, other-times in longer Intervals, and indeed after a total Cessation, and that also sometimes longer, other-times shorter by new Fits longer and shorter likewise both on the account of Cold and Heat, which seeing it is not in the Blood, otherwise it would be a Continual Fever, is mixt with it and carri'd to the Right Ventricle of the Heart; and truly 1. From such a part of the Body, which should communicate it self by its Vessels with the Heart, either immediately or mediately. For here we suppose as our Foundation the Circular Motion of Blood, both prov'd abundantly by others, and Us also elsewhere.

47. 2. From such a part, and by such Vessels, in which it may, by an External Cause, consisting almost in the Non-natural Things, so be infested and afflicted, that it may be suddenly stop't in some part in its Motion, and that for some time, and bindred now longer, other-whiles shorter, lest it should constantly come to the Heart.

48. 3. It should be such a thing, as either for its stopping alone, and standing still in its Place or Vessels of its own accord, or for any other Internal Cause concurring to be nam'd, or demonstrated should acquire such a vitiation, from which (where after that an open passage

passage to the Heart is restor'd to it by what way soever) either alone, or joind to others also to be determin'd all the Symptoms, though never so divers, and observable in the manifold Kinds of *Intermitting Fevers* describ'd may commodiously be deduc'd and confirm'd by a rational and certain Cure. For We command all Hearty and Worthy Students of Physic, the Queen of Arts, once and always to bid farewell to the Commentations and vain Fictions, contrary to the Practice of Physic.

49. 4. It should be such an Impediment, which for a time may bind up such an Humor stop'd before, and after it has got an Out-let, by what cause soever, at last it should return to its former Nature, and therefore should likewise stop the like Humor to the former so long in the same place, till the same, as the former, pour'd out by a way prepar'd after what manner soever, should produce a new Fit; and that should be so long continu'd by course, till at length (unless the sick perish first) either of its own accord, or by chance, or by art the noted Impediment should be corrected, or taken away, and the *Intermitting Fever* be Cur'd by the same.

50. If therefore we should attentively consider that all the Humors of the Body of Man (for we leave the economy of Brutes to Ferriers to be weigh'd and explain'd) are prepar'd in their proper Places, or be kept there; and after that be carri'd through their Vessels to the Right Ventricle of the Heart, we shall observe that beside the Blood returning to the Heart by the Veins from all the Containin^g Parts; 1. *Choler* mixes as well immediatly by its Passage through the Liver with the *Blood Ascending*; as mediately with the *Blood Descending* through its Passage to the Gut, in the Guts, the Lacteal Veins, and the Lymphatic Passage of the Brett. 2. The *Lympha* mixes it self
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immediatly with the *Blood Descending* by its *Lym-
phatic Vessels*, and their *Trunk*. 3. The *Juice* of
the *Pancreas* is only mediately mixt with the same
Blood Descending through its proper *Passage*, the
Guts, the *Lacteal Veins*, and *Passage* of the *Breſt*.
4. Lastly, The *Spittle* in like manner mediately only
mixes with the *Blood Descending*, through its *Passages*,
the *Mouth*, *Throat*, *Ventricle*, *Guts*, *Lacteal Veins*,
and *Passage* of the *Breſt*, and together with it is
drawn forward to the *Right Ventricle* of the *Heart*.

51. Beside which *four Humors*, seeing hitherto
none are known to be carri'd to the *Right Ventricle*
of the *Heart*, of necessity we must judg the *Cause* of
Intermittent Fevers, as *Intermittent*, to be deduc'd
from *One or More* of them; since all may see, that the
Blood when ill-affected, causes a *Continual*, and not an
Intermittent Fever, because of its perpetual *Motion*
to the *Heart*.

52. If the *Blood stand still any where*, presently
there arises an *Inflammation*: which if communicated
to the rest of the *Blood*, in like manner produces not
an *Intermittent*, but *Continual Fever*. To which
sometimes is coupled an *Intermittent Fever*, and espe-
cially a *Tertian*, and then from both for a *Continual*
Tertian to arise is no new thing nor wonder, for
reasons manifest enough by what is said beneath.

53. The *Blood* therefore herein being laid aside,
I. None will judg that *Intermittent Fevers*, as *Inter-
mittent*, can be deduc'd from *Choler*, who hath dili-
gently considerd, that it cannot be so infected and af-
flicted in its *Passages* suddenly by any *External*
Cause, so as to be stopt either wholly or in part in its
motion for a time, and again either of its own ac-
cord, or for any other demonstrable *Internal Cause*
should find a way, by which it may produce the
Symp-

Symptoms above noted, by what way soever it's brought to the Heart, and that either alone, or joind with others.

54. I do not deny that *Choler* is turn'd into *smaller* or *bigger Stones*, and also into a *Stony Crust* in its Passages through the Liver: But as neither comes suddenly, so neither is it observ'd that either of them were dissolv'd by any Internal, but only External Cause, nor yet so, that any thing like to Intermittent Fevers can thence be deduc'd.

55. In like manner sometimes *Choler* is judgd *not* to be carry'd down to the *Small Gut* from what cause soever, when the Excrements are obscurely white and thicker then usual. But an *Intermittent Fever* is not always observ'd to accompany the Jaundies, although often it doth; which therefore cannot be taken thence for an impediment of *Choler*.

56. II. Neither from the *Lympha* can *Intermittent Fevers*, as *Intermittent*, be deriv'd. For, besides that the most Symptoms accompanying them for the most part, and observable chiefly in the Abdomen, cannot be expected even in a Dream, from the *Lympha*; besides, if *Intermittent Fevers* did depend of, and were produc'd by the *Lympha*, then either all, or but part of the *Lympha* were faulty, as though it were hindred and farthered again reciprocally in its Motion to the Heart. If all? where and what kind of Impediment could that be? whether or no in all the Conglobated Glandula's, Muscles and Bowels? or in all the Lymphatic Vessels, or their Trunk about their insertion into the Jugular or Axillar left Vein? But if only a part thereof, then which and where? Whether that which goes only to the Heart from all or some only of the Conglobated Glandules? Or whether it be hindred in all the Glandules? But those

these Glandules are rarely found to swell or be hard, and that only when the Head is stufft, or in Catarrhal Fevers (of which we spake in the former Chapter) scarce ever, though the Intermittent Fever be very troublesome, the Causes whereof we search: so that, by how much the more diligently any searches the Rise and Motion of the *Lympha*, as also its Supply and Vessels, so much the less will he incline to ascribe the Cause of *Intermittent Fevers* as such to the *Lympha*.

57. III. *Intermittent Fevers, as Intermittent, in no wise seem to be deduc'd from Spittle.* For (that we transfer not hither more Arguments from what is now said of *Lympha*) although sometimes, for that is not perpetual, a little before the Feverish Fit, or together with its Beginning, the Spittle is observ'd to flow more plentifully or slowly unto the Mouth, notwithstanding the same Spittle is not noted to be such, that the molesting Symptoms of every *Intermittent Fever*, I say not all, but even the most frequent, may solidly be ascribed to it. The Spittle is not always, I say, carri'd; which if so, should wholly be carri'd in the time of Intermision, more slowly to the Mouth, and more plenteously while the Fit begins or molests; and sometimes the contrary, sometimes neither happens. But the Vitiation which are found in the Spittle, do nothing less then testify the primary, but rather the secondary Vitiation of Spittle, as it will more evidently appear from what is to be said hereafter.

58. IV. *Any Man may easily think that Intermittent Fevers, as Intermittent, are to be deduc'd from the Juice of the Pancreas,* who shall observe with an attentive Mind, all and every of the *Requisites*, noted in *Self. 46; &c.* to produce them, to concur here and only here.

59. For 1. This Juice is carri'd from the very *Pancreas*, in such a Part, which by its Vessels and proper Passages (as it is said in Sect. 50.) mediately communicates with the Right Ventricle of the Heart.

60. 2. The same Juice is carri'd by such Vessels, to wit, the Lateral or Side Passages, in one or more whereof, it may be so infected and afflicted by an External Cause, that it may suddenly be stop'd in some part, in its motion, and hindered for a certain time, least it should continually go to the Heart.

61. And that falls out, as oft as Phlegm, which uses to be much gatherd and accumulated in the Small Gut, is dissolved either by Heat of Air, or a vehement Motion of Body, or Watchings prolongd, or Care of Mind, or Anger continu'd, or Meats, Sauces, or sharp Medicines, or else by any other Cause; and then being mixt with the Blood, is carri'd together with it all over to all parts of the Body, and being joind more or less every where with all the Humors, is carri'd with the same in their Vessels; Whence as in other places, so in the Lateral Passages of the *Pancreas*, I mean the strait ones, the same Phlegm thickens, stops the same Passages, and hinders that the Juice standing still there, cannot go into the Middle and Greater Passage and so forward, for some sudden External Cause, which is apt to Coagulate Phlegm, (as Air frozen or blown with chill Winds, or with any Blast causing cold, Rain or any Water touching the Body, and afflicting it with its coldness, Drink of any cold Liquor, especially when taken in a large quantity; A sudden and especially unexpected Terror, and great Grief of Mind, &c.)

62. And perhaps this happens easier, and oftner in the *Pancreas*, then in all the Parts of the Body, because Phlegm is easier and more plentifully joind and

and transported to the Acid Matter of the Juice of the Pancreas, exceeding all the other Humors in Acidity; and again it separates easily, when Coagulated by any Cause, whereby the Separation between that Acid, though not very sharp, Juice, and Phlegm, though Clammy, being only confus'd, in no wise wholly mixt, is promoted.

63. Nor have we only *Concluded that the Obstruction of the Pancreas in the Lateral Passages, may be in probability* by the now mention'd Causes in part contrary to it, and mutually receiving one another, but *we have evidently cleared*, by ocular inspection more than once, that it is *actually done* in our Dissections of Bodies.

64. For sometimes among our Dissections, even publicly, several being then present in our Academic Hospital of the Sick, besides other grievous Diseases, we had the Bodies of those that died of *Intermittent Fevers*, and indeed often manifold, and of long continuance; we forc'd in a liquid Volatil Salt coloured blew into the Passage of the Pancreas, where it opens into the small Gut, by a Syringe fit for this matter. Which Salt, because it pierced only into some, and not into all the Glandules at first, (though the next day it opened all) whilst it entred into both those that were near and remote, and indeed some near, as well as remote were not coloured, and dy'd them of its colour, there must needs be some obstacle, which hindred the infus'd Liquor, from passing through all the Lateral Passages of the Pancreas, into the adjoining Glandules, which all the Spectators beheld, and without doubt could not but acknowledg the same.

65. And that that hindrance was an *Obstruction by a thick and viscous Humor stuffing up the Lateral Passages*; I therefore affirm, because (beside which, none,

none, not the least sign of Compression, or of any other kind of Straitness, to which this can be ascrib'd did present it self) all the Antecedent Causes, as oft as they come to be known, and the Symptoms wonted to accompany *Intermittent Fevers*, and so also the most rational and certain Manner of curing them, are found to agree, and exactly to square with an Obstruction.

66. 3. Such is the Juice of the Pancreas, as that it may of its own accord get such a vitiation by its delay and standing still alone in its Lateral Passages; as that then all the Symptoms of *Intermittent Fevers*, though never so different, may commodiously and without difficulty be reduc'd to it, partly alone, and partly join'd to others, hereafter to be determin'd and confirm'd by a rational and certain Cure.

67. For the Juice of the Pancreas is naturally sourish; which is clear'd by several Arguments propos'd by Me in My second Disquisition of Fevers, Sect. 32, &c. and also by Experience, in the happy success of that Ingenious Dr. Regnerus de Graaf, tried often here and elsewhere in Dogs, and also once at Anjou, in a Man unhappily oppress'd and kill'd with a Beam falling on him, and in a peculiar Exercise here expos'd to public examination, at the end of the year 1664. I being Præses.

68. This Juice because it is sourish, therefore is such also, which by its delay and standing still, is vitiated of its own accord in any of its Passages, and indeed so, that first of all it becoms more Acid then usual; and hence dissolves the Pblegm obstructing its Passages either wholly, and then carrying it out, or at least pierces and passes through; and at length both Alone, and join'd with other Humors afterward to be explain'd, is not only like to produce, but indeed produces all

The Symptoms that happen in all Intermittent Fevers.

69. For daily Experience testifies, that any *Acids*, become always of their own accord more Acid. So Vinegar the older, so much the sower. The Reason wherof I take to be this; to wit, that the *Acrimony of Acids* is then encreas'd, because the Volatil Spirits that temper that Acidity, do at least in part vanish away, whence no wonder, if any Acid Liquor being kept, grows sensibly more Acid. By the same means the making of Vinegar may be promoted, though unknown to many, in a common place warm'd with Fire, or expos'd to the Sun on an House top; for by these means a way is prepar'd for the more easie and speedy efflux of the Volatil Spirits.

70. And as any Acid Liquors not within our Bodies, do of their own accord and more encrease in Acidity; so within the same, the *Symptoms* both in Melancholic Diseases so call'd, and which here is more requisite, those that are observable in the *beginnings of Intermittent Fevers*, and as they oft rise without the wrong use of any Acids, so are they to be refer'd to an Acid Liquor, these, I say, do prove that the *Juice of the Pancreas by being stop't* does grow more Acid, which therefore we intend strait way to search more accurately.

71. The Juice of the Pancreas grows Acid with standing still in its Passages, because the Volatil Spirit which is naturally conjoin'd to it, and so tempers it, departs then gradually more and more.

72. This *Juice of the Pancreas*, by standing still as aforesaid, becoming more Sharp and Acid, begins to use its force, and to Cut the *Pblegm* that stops its Passages; which if it prevail with so much toughness and thickness, that it cannot be wholly cleans'd, loos'd,
and

and thence remov'd, it pierces it then, and opens a way for it self by force to pass through.

73. We intend to deduce the rise of all the observable Symptoms in Intermitting Fevers, from the too much Acidity of the Juice of the Pancreas, and other Humors joind to it, after we have premis'd in a word the fourth Requisite, Sect. 49. also here to concur, to wit, that the Phlegm that obstructs the Lateral Passages of the Pancreas, which not only compels the Juice for a time to stand still there, but moreover when it has yielded it an Out-let, caus'd by its Acrimony, does presently again come together, grow in one, and so repairs and renues the Obstruction that was in part open'd, and hence stops likewise that Juice so long in the same place, till being let out also as the former, in an open way, it produces a new Fit; and that so long continu'd, till the Fever and Obstruction be wholly cur'd any way. or the Sick himself destroy'd.

74. That the nature of Viscous Phlegm is such, that though it be pierc'd through, yet runs together and unites again, is sufficiently evinc'd by the like change of all viscous things, and also the eradicating and choaking Medicins of Intermitting Fevers; whether they be of an inciding or cutting nature, and Diuretics, or Sudorifics, or whether Vomitors or Purgers. For all these seem to my apprehension to cure Intermitting Fevers, in as much as they incide, loosen, cleanse, and carry down to the Guts, and sometimes totally educe out of the Body, though in a divers way the Viscous Phlegm that stuck in the Passages of the Pancreas. Which any that seriously weighs and examines the special, and commonly call'd Specific Medicins for happy curing of Intermitting Fevers will easily acknowledg.

75. As oft as Intermitting Fevers are not ended

suddenly and by Medicines us'd by art or chance, or by the Non-natural Things not naturally us'd, and exceeding custom, but vanish away slowly and almost insensibly, so oft, if any observe all, which befall the Sick, he will find that the reason of this Solution is wholly to be ascrib'd to the same Non-natural things and sometimes to Medicines, but very moderate ones, and therefore such as do slowly and less observably produce this worthy Effect.

76. Having now fully proved the rise of Intermittent Fevers, as Intermittent from the Juice of the Pancreas Obstructed and Standing still in its Lateral Passages, the next thing in course is, that we deduce all the Symptoms in Fevers, though never so different if notable, both from the same, and also from other Humors join'd with it, and so prove and confirm our Opinion of Fevers and their Rise, at least in part, as we hope, already prov'd.

77. The Juice therefore of the Pancreas, being made *more sour than naturally it is*, by its above-mention'd Obstruction, and poured out into the Cavity of the small Gut after it has pierced through the obstructing Phlegm, forth-with rises up *against Choler meeting it*, and so raises an *Effervescency* with it *sharper than usual*, and indeed varying according to the variety of Phlegm also adjoining.

78. For so long as that *Acid Juice by the help of Phlegm over-powers Choler*, it produces *Coldness*, different very much in many Circumstances.

79. For 1. most frequently there is *vehement Cold in the Region of the Loins*, where there is a conflux of the three fore-mentioned Humors in the Small Gut, when the aforesaid Juice is more Acid, and Palegm is not very viscous, by which, piercing the Tunicle of the Guts, it affects them with Coldness.

80. 2. In the same Region of the Loins *there is little or no Coldness felt*, when the Phlegm of Spittle is very Viscous, and hinders the piercing of the Juice of the Pancreas to the Tunicle of the Gut, whence Coldness molests, one while in the *middle of the Belly*, to wit, about the end of the small Gut, another while in the *extreme parts of the Body* only.

81. 3. *Coldness* seems chiefly to molest in the *Inner Parts of the Head*, when it abounds with a Phlegmatic Humor, to which the Acid Juice, or its Vapors joining, manifest themselves there, more then elsewhere, and so torment the Sick whilst a Distillation of Rheum does assault and attend.

82. 4. By these same Vapors if more gentle, and also by the mixture of Phlegm of the Guts becoming more flatulent and going to the Lungs there are raised in the beginning of most of the Fits *Tawnings*, as also *Gappings*, *Unquietness*, and *weariness of the Limbs*, by the same dispersed through the Habit of the Body.

83. 5. At other times these over-sharp Vapors, being less mixt with Phlegm, but different in degrees of Acrimony, do produce sometimes a *Shivering*, sometimes a *Stiffness*.

84. 6. These same Vapors, when they are more Acrimonious, do breed *Gnawing*, *Pricking*, and so *Gripping Pains* of the Belly: as when they have much Phlegm mixt with them, they then breed more *weighty and beating Pains*.

85. 7. These same Vapors being both flatulent and acrimonious, cause the *Pulse* in the beginning to be more frequent because of their Irritating the Heart when they come thither: which by Degrees grows *Lesser* when Cold increases by reason of the increased Acidity in these Vapors that arise, the Blood

being more coagulated, and so less fit for its rarefaction: Whence no wonder if beside all this the Pulse be made *Weaker* together with the whole Animal Motion; which therefore can scarce or not at all be observ'd, whil'st Coldness doth molest.

86. But where all the Juice of the Pancreas becoming sharper by the Obstruction is effus'd into the Small Gut, and *Choler* getting dominion again becomes sharper, either by it self, or is made sharper by reason of the vitious Effervescency made with the atoresaid Juice; the Vapors which are then rais'd for the most part more Choleric, 1. do usually cause an *Anxiety* about the Midriff, and sometimes a *Queasiness*, and Vomiting, or besides, a *Looseness*, of which we intend to speak more largely hereafter.

87. 2. These same Vapors being very Choleric, and partly rising up to the Ventricle, and hence up to the Jaws, partly passing through to the Heart and Lungs do provoke *Thirst*.

88. 3. Likewise when Choler hath gain'd dominion in the Heart, the Blood by degrees rarefies more, and the Pulse becomes greater and stronger; although the former frequency remains, which is increas'd by an irritation of the Acrimony of Choler, and the rarefaction of Blood at the Heart.

89. Though chiefly the Heat and Burning in the Heart, and thence in the whole Body is increas'd by Choler successively over-ruling.

90. And no Wonder if then 5. a *driness* of the Tongue do accompany such a Heat, seeing Vapors effus'd out of the Blood and carri'd into the Lungs through the sharp Artery do dry the same.

91. Neither is it a wonder if 6. *Breathing* be more difficult and increas'd seeing the Blood is much rarefied.

92. As also, if 7. *Heat, Pain, and Pulsation of the Head* chiefly, do vex the Sick, seeing no part of the Body hath so many Arteries, and receives so much Blood as the Head; in which Region of the Temples the same *Pulsation* is felt more troublesome then elsewhere, because of the remarkable winding clefts of the Brain, through which great Arteries are carri'd.

93. Neither Wonder, if 8. *Watchings*, and sometimes a *Raving* do so frequently molest; for then of necessity the Animal Spirits are vitiated and mov'd troublesomly, and hindred of natural Rest, or at least Tranquility, wherefore the empty Mind of the Sick is disturb'd, and oft *distracted*.

94. And after the preternatural *heat and fury of Cholera made sharper* by the Juice of the Pancreas also sharpened after the same manner by its Obstruction, *begins to remit*, and the Humors are dispos'd to serenity, and former tranquillity of the whole Body, which during the troublesome Fit were more confus'd one with another, do now sensibly separate and loosen from one another again, yea some of them also are voided by *Urin* or *Sweat* together with Drink taken pretty liberally.

95. And as Watchings molest while the Fit continues, so when it declines, a *pleasant Sleep* uses to overtake the wearied, and recreate them again.

96. Which if the Humors of the Body more closely united, separate from one another only in part, the Sleep is observ'd *less quiet*, and *grievous with Dreams or Watching*; which testifies the Diseases rather to increase, then decrease.

97. But, that we may prosecute in order all the kinds of Fevers mention'd, I. *Chill Fevers* arise from the Juice of the Pancreas over-Acid, and joind to

Phlegm plentiful and tough enough, mean-while Cholera being very slow.

98. II. Burning Fevers arise from Cholera then Sharp, and Oily, and Plentiful, the Juice of the Pancreas being less sharp, and Phlegm but little, and less tough.

99. III. The Fevers call'd *Epialæ*, I judg to be two-fold Intermittent Fevers, but both caus'd by the Juice of the Pancreas too sharp, and Cholera also sharp, and so indeed, that continually the Coldness of the one concur's with the Heat of the other, and the new Fit of the first and Coldness return, when the Heat of the latter begins to be augmented, and molest the Sick.

100. IV. I ascribe Thirsty Fevers to the over-sharp Salt in Cholera; which if much Oiliness also accompany, Thirst is troublesome chiefly in Heat, but if it be more gentle, then even while Cold molests; and its hurtful quality is more manifested at the meeting and vitious Effervescency of the Juice of the Pancreas forcing out after its feverish obstruction.

101. V. I derive Hungry Fevers from the Juice of the Pancreas obtaining a more grateful Acidity, but potent by its obstruction, when it ascends to the Ventricle breeds both that cruel Hunger, and sometimes Fainting and other Symptoms except Meat be given.

202. VI. The Juice of the Pancreas breeds Heart-aking Fevers by getting a Corroding quality, chiefly when Cholera is also sharp, and their concurrence make a potent Effervescency; whence exceeding sharp Vapors rising to the upper Orifice of the Ventricle do sharply bite and gnaw it.

203. VII. Gripping Fevers arise from the same Juice of the Pancreas both too sharp and too tart by its obstruction, and putting forth its Acrimony, one while into the Small, other times into the Thick Guts;

Guts; With which if *Viscous Phlegm* and *Choler*, at least moderately Sharp, do concur, they raise *Wind*, which distend the Belly together with the Guts, and beget the *Colic* pain an importunate Companion of this Fever.

104. VIII. *Swonning Fevers* have their rise also from the *Juice of the Pancreas*, but more Volatil then Sharp in Acidity by its obstruction, *Choler* being little and slow then, whence the same breaks forward without delay through the Lacteal Veins piercing towards the Heart, not only all over, and raising a cold Sweat, but forthwith does so coagulate the Blood also, that for a season it cannot be rarefi'd sensibly, nor yet the Pulse observ'd, till *Choler* get some strength when this hurtful Juice begins to cease, and the Sick seems then to return from the Dead to Life.

105. IX. I attribute *Strangling Fevers* to *Sowr Vapors* of the *Juice of the Pancreas* growing more sowr by its obstruction, third up in its Effervescency with *Choler*, and not only rising to the Ventricle and Throat, but also to the Thoracic Passage, by the Lacteal Veins, to the Heart and Lungs, and causing sometimes a *Sense of Suffocation* in the Gullet, and a true *Suffocation* in the Lungs.

106. X. I also ascribe *Difficultly-Breathing Fevers* to *Vapors* after the same manner, but less Sowr, of the *Juice of the Pancreas* less Sowr, join'd to Viscous Phlegm in the Small Gut, and so more Flatulent; from which all the Symptoms reckoned *Señ. 32.* may be easily and only deduc'd, and commodiously enough explain'd.

107. XI. *Asthmatic Fevers* have their rise in my Judgment from Viscous Phlegm found in the Small Gut, which being dissolv'd by the *Juice of the Pancreas* raise a Feverish Fit, and being carri'd with it,
toget-

together to the Heart and Lungs, and sticking there, causes a Breathing with Snorting; whil'st many or few Belches come forth by the same, and make a more grievous, or lighter, longer or shorter Fit.

108. XII. *Coughing Fevers* are caus'd by Vapors, most commonly, seldom Wind, and not so Viscous as Sharp, partly to be ascrib'd to the *Juice of the Pancreas*, partly to Phlegm in the Guts, but sharper and more biting, so often as they come to the Lungs, and provoke and compel Them to cough continually.

109. XIII. *Catarrhal Fevers* arise from Humors in the Head gradually gathered, and dissolv'd by the Cause of an Intermittent Fever carri'd thither, and mov'd every way according to its Distillation and Defluxion.

110. XIV. *Gouty Fevers* are to be found in the *Juice of the Pancreas* so corrupted, that it chiefly assaults the *Joints*, whether with much *Acrimony*, and carrying with it *Choler*, with which it does viciously effervesce, and raise the most grievous Pain; or less Sharp, rising against *Viscous Phlegm*, and not sharp Choler is much dull'd of the same, and hinders the Motion of the part with a Phlegmatic Tumor, rather than an Acute Pain. Where it is to be noted, that often, daily, or every other day the Feverish Fits which return, do not afflict the Sick with a notable or troublesome Coldness, or Heat, but rather with a light Pain of the Head, and moreover a Thirst, the Pulse also being too Frequent and too little at first; and then somewhat Greater: whereby a New Fit is observed; the Gouty Pains also being imbittered after some hours, and so, that although they remit again in part, either slower or quicker, yet do they not wholly intermit; but though the Feverish Fit be ended, yet notwithstanding the grievous
or

or more light Pains of the Joints still continue, till at length they depart either of their own accord or by art.

111. XV. The Symptoms that attend *Distracting Fevers*, do prove the new Feverish Fit to arise from *Choler*, chiefly *sharp enough* of it self, and *sharper* by meeting with the Juice of the Pancreas.

112. XVI. All may see that *Vomiting Fevers* arise from the same *Choler* very Volatil, and sometimes also *sharp* meeting with the *Juice of the Pancreas*, and so much stir'd up by its consequent Vitious Effervescency and rising up to the Ventricle; which the excretion of *Choler* sometimes Yellow, othertimes greenish doth confirm.

113. XVII. *Fevers with a Loosness* are wholly to be assign'd to *Choler* also, but less Volatil, and *more sharp*, and still made *sharper* by meeting with the *Juice of the Pancreas*, which by gnawing the Guts having dissolv'd the Phlegm therof do provoke them to thrust forward what is contain'd in them.

114. XVIII. I take *Sweating Fevers* to arise from the *Juice of the Pancreas* more Volatil, then sharp, and therefore rather dissolving then coagulating the Mass of Blood.

115. XIX. I am perswaded that *Urining Fevers* arise from the same Cause but less Volatil, seeing that not only the Matter of Sweat is the same with that of Urin, but where Sweat is hindred by external Coldness, there Urin is voided more plentifully.

116. XX. I deduce *Spitting Fevers* from the same Juice of the Pancreas, being so vitiated by its Obstruction, that when it produces a Feverish Fit, it is carri'd more plentifully to the Salivary Glandul's, and so affords the Spittle more plenteous and fluid matter.

117. From

117. From what has been said, I suppose that the Causes of many other Intermittent Fevers with most grievous *Pain of the Head, and Teeth*, and other parts, or any other notable Symptom may easily be unfolded by those which are Ingenious, wherefore before we come to the Cure of all and every of the Fevers propos'd and explain'd, let us mention their diversity in returning, according to the Intervals of their Fits now shorter, other-times longer in Quotidians, Tertians, Quartans, Quintans, and others, as also the Reason and Causes of their difference, which I take to be most true, and intend to apply them explain'd to my Opinion.

118. And although I do not wholly follow the divers manner of these Sorts commonly ascrib'd to divers, yet do I not think that these divers Humors are here to be neglected, seeing that, as shall appear by what is to be said, if they cause not that diversity immediatly, they much contribute, to do it mediately.

119. As therfor the new Fit of every Intermittent Fever is stir'd up according as we have taught, so oft as the Juice of the Pancreas becoming sharper by its Obstruction, bores through the Phlegm that obstructs its Lateral Passages and passes to the small Gut, and hence having rais'd an Effervescency vitiated howsoever with Choler, and other Symptoms in the same place, and adjacent parts carri'd through the Lacteal Veins, and Thoracic Passage, and the hollow upper Vein into the Right Ventricle of the Heart, and so forward: so the same *new Fit, is rais'd sooner, or later, as Phlegm obstructing the Lateral Passage of the Pancreas is pierc'd, and bored through by the forementioned Juice.*

120. And this piercing and penetrating of Phlegm
Ob-

Obstructing, is sooner or later, both upon the account of the Phlegm it self obstructing the Passage, and also of the Juice of the Pancreas piercing through it.

121. For by how much the *more viscous and plentiful Phlegm is*, by so much the more difficulty and so slowly will it be pierced through : and on the contrary, the *lesser and less Glutinous it is*, the easier and so the sooner will it be pierc'd through.

122. Again, the more Acid this *Juice of the Pancreas is* of it self, the sooner will it acquire by its obstruction a greater and sufficient Acrimony to penetrate the Phlegm obstructing easier and sooner : and on the contrary, the *more obtuse or sour and little this Juice is*, so much the *slowlier* can it acquire a sufficient Acrimony to cut through the Phlegm.

123. Therefore by how much the *less and less glutinous Phlegm* obstructing is, and the *Juice of the Pancreas* be more Acid and Plentiful, so much the sooner will a new Fit of an Intermittent Fever arise, and so a *Quotidian*, that is, one returning in the space of about 24 hours.

124. Again how much the *more viscous and plentiful Phlegm* obstructing is, and the *Juice of the Pancreas* more obtuse or tart and little, so much the slower will the new Fit of the Intermittent Fever be a coming, and so a *Quartan* or *Quintan*, &c.

125. But as oft as 1. *Phlegm* obstructing, and *Juice of the Pancreas* are in a medium ; or 2. The *Juice of the Pancreas* is of it self too acid or plentiful, and *Phlegm* obstructing too viscous or plentiful ; or 3. the *Juice of the Pancreas* is less and less Acid, and *Phlegm* lesser and less Glutinous, so oft new Fits of the Fevers will return almost every other day, and then they will be *Tertius*, much differing in their Symptoms beyond

beyond what other Intermittent Fevers do ; and indeed because of the newly mentiond possible three-fold respect of Phlegm obstructing, and the Juice of the Pancreas piercing through it.

126. And here you may note, that Intermittent Fevers do-but seldom return in the exact Interval of natural days of 24 hours ; but return quicker or slower for the most part ; wherefore then they are said to *anticipate* the appointed and expected Time for some hours, which is disliked ; or to *come later*, which is commended, although it matters not whether the Fits anticipate or come later, if so be that their continuance, and the grievousness of Symptoms daily accompanying be diminishd ; to which a Physician should chiefly give heed when he prognosticates by Art, and would foretel a change certainly to come.

127. From what hath already been said, *the Causes* of Intermittent Fevers, both *manifest*, and *compound* of *divers*, may without much difficulty be found out and assignd, to wit, the *Obstruction both various, and in divers Lateral passages of the Pancreas*.

128. But there still remains a difficulty not to be despis'd, which is more requisit in explaining *the multiplication of any simple Intermittent Fevers*, to wit, Quartan or Tertian, that is, its change into a double or triple, which I judg to be so oft as *new Phlegm is dissolv'd* in the Body, and especially in the Small Gut, by an *Error committed in Diet, or Medicines, Poisons* rather not rightly us'd, and hence driven forward together with the Blood every whither, therefore also to the Pancreas ; which being again coagulated in one, or more of its passages formerly not afflicted, by what cause soever, breed an Obstruction different from the former, more or less, which breeds a Fever more or less grievous then the former. And
if

if daily Experience do not evince, certainly it abundantly confirms this to be so.

129. And seeing I cannot observe any more notable difficulty about the Causes of Intermittent Fevers, which I judg. could make any scrupling to the Ingenious and Judicious; who attentively consider what is above-said, and chiefly to those who do accurately observe natural things, I betake my self directly to handle their Cure.

130. As we have considered *Intermittent Fevers*, in searching and assigning their Causes, both as they are Intermittent, and as they are *accompani'd with various Symptoms*, and as they *return in divers Intervals*, so now we will keep our Method in *their Dogmatical Cure* propos'd, and will attend to the same, seeing that the Cure according to Art will be easier and more succesful, when they are accurately and rightly observed.

131. Because therefore the *Juice of the Pancreas* is the apparent and determin'd Cause of *Intermittent Fevers* as *Intermittent*, when it is made more acid and sharp, by reason of the Obstruction of its Lateral Passages caus'd by Phlegm coagulated in them, and hence carri'd down into the Small Gut after the Phlegm Obstructing is open'd, and there raising an *Effervescency* vitiously with *Choler* and *Phlegm* of the Guts meeting, after that creeps with them in what form soever to the Right Ventricle of the Heart, and therein by stirring up the Heart causes a more frequent Pulse, not only by its Acrimony or Flatulency, but moreover alters and troubles divers ways the *Vital Effervescency*, and Sangnification it self, and produces all other *Symptoms* above noted, and explain'd in divers places, the Cure wherof will be perform'd, if
1. *Phlegm obstructing* more, or less glutinous and coagulated

agulated be cut, and dissolv'd, and thence remov'd, because peccant in place, and carried down at least to the small Gut, or wholly carri'd out of the Body. II. If the Acidity and Acrimony increas'd of the Juice of the Pancreas be Temper'd and Correc'ted. III. If its vitious Effervescency with Choler in the Small Gut be hindered or amended.

131. I. Phlegm obstructing will be Cut most commodiously with Aromatics and any Volatil Salt, but especially so us'd, that the whole Body grow warm, either with Motion, or a Fire, or Bath, or Cloaths also; whereby the force of the Medicin being disperst all over, may come also to the Pancreas it self, and its Lateral Passages, and so to the place Griev'd and Fuel of the Disease: which chiefly conduce to Melancholic and Phlegmatic People.

133. For Example sake take of this Mixture one Spoonful several times in a day, and two, or three hours before the Fit com'stake three Spoonfuls; also increasing the heat of the Body mildly, as is above-said, even to the breathing of a gentle Sweat: for so it will perform more, and sometimes happily cure the Fever.

Rx. Parsley-water $\tilde{\text{z}}$ ii. Fenel-Water $\tilde{\text{z}}$ i. Treacle-Water, or Aqua Vitæ of Matthiolus $\tilde{\text{z}}$ i. ℞. Volatil Salt of Amber ʒ i. Syr. of Carduus $\tilde{\text{z}}$ i. M.

134. If the Constitution of the Sick be either Naturally or Preternaturally Cholerick, let him take few things that loosen and cut; For Example,

Rx. Fumitory-Water $\tilde{\text{z}}$ iii. Salt Armoniac, or Salt of Tartar Vitriolated $\tilde{\text{z}}$ i. Diaphoretic Antimony $\tilde{\text{z}}$ ℞. Syr. of Fenel $\tilde{\text{z}}$ i. M.

135. When Cholerick and Phlegmatic Humors do abound together in the Sick, these Mixtures may be prepar'd of the two above-mention'd differing ones. For Example;

Rx. Car-

Rx. Carduus and Succory-Water, of each 3 i. lb. Simple Treacle-Water, Distilled Vinegar, of each 3 vi Crabs-Eyes ponderd 3 lb. Syr. of the five Roots 3 i. M.

136. If the *Pblegm Obstrucling* be not very glutinous, the Obstruction is often loosend wholly, by one Sweat, and its Cause carri'd down into the Small Gut, and the Fever Cur'd.

137. You may administer a *Vomit* three or four hours before the return of the *Fit* if there be little *Pblegm*, and much *Choler* in the Body. by the help whereof not only *Choler* abounding, but also *Pblegm obstrucling* is expell'd to the Small Gut, and thence to the Ventricle, and at length by the Gullet and Mouth, and so the Fever is said to be choak'd; because it is remov'd. To which end I have often us'd with happy success a *Sapa Vomitoria* made by my Self of *Glass of Antimony*, and other Medicins made of Antimony in this case proper before all others.

138. Such things also as *Purge*, perform the same, if they have such as both cut and purge *Pblegm* mixt with them. For Example;

Rx. Fetid Pills 3 lb. Troches of Albandal, Mercury dulcifi'd, of each Gr. 5. Oil of Amber 2 drops. M. Make them into five Pills Guilded, and take them four or five hours before the Fit comes, which will purge mildly.

139. II. The *Encreas'd Acidity and Acrimony of the Juice of the Pancreas*, is best Temper'd with *Volatile Salts*, and all *Aromatics* not neglecting *Opists*. To this end therefore the Mixture prescrib'd in Sect. 133. may be us'd, and it will be more effectual, if you add to it *Laudanum* three Grains, and *Oil of Cloves* two Drops.

140. III. The *Vicious Effervescency of the Juice*

of the *Pancreas* and *Choler* may be *Hindred*, at least *Amended* with the newly commended Mixture, and chiefly because of *Opium* wonderfully lenifying and tempering both kinds of Sharpness by its Oiliness.

141. And by these few forms any young Practitioner may easily invent other Prescriptions in some things to be vari'd as the Distemper requires; especially if he attend to all the Rules, and Examples of Forms which he may find here.

142. And now we have premis'd the Rational Cure of Intermittent Fevers, as Intermittent, confirm'd by long Experience, let us see what the Symptoms so notable by their great diversity, and oft so troublesome to the Sick, do indicate and require for their Cure.

143. Against *Coldness*, and the other Symptoms that usually accompany it, the Mixture prescrib'd in Sect. 133. is convenient here, if you add what we commend Sect. 139. seeing I have not observ'd hitherto that any thing does so temper Coldness, as *Oil of Cloves*; and while the Sick is Cold, he may take three or four times in an hour a Spoonful of the above-mention'd Mixture.

144. To temper *Heat*, and its Symptoms accompanying, the Mixtures every where prescrib'd, as also the Decoction set down in Chap. 29. Sect. 40, &c. are convenient; to the imitation of which, you may easily form more.

145. III. In *Epial Fevers* Medicines compos'd of the foremention'd differing Prescriptions are convenient; such as is the Mixture propos'd in §. 135. and many other sect-like in this Treatise; also any may form one according to the Symptom that most molests, and change it after it is taken with different success. For we must always attend to such things as Conduce

or are Prejudicial; and according to them, Remedies are to be alterd and renewd; seeing in this the Judgment and Ingenuity of Physicians appears.

146. IV. To assuage and take away Thirst, I commend what I mentiond in Chap. 29. Sect. 47. And note, that during Heat you may drink more plentifully, whereof take heed whilst Coldness molests; in which time it is safer to wash the Mouth with clean Water, and moreover mix with Wine, and to deceive Thirst, rather then drink much: or then you may dissolve some of *Lapis Prunella* in Drink, and often take it in a small quantity.

147. V. To Cure Hunger that threatens fainting, all things conduce that do potently destroy and concentrate the Sour Humor, *Crabs-Eyes*, *Pearl*, *Coral*, *Chalk*, &c. only reduc'd into Poulder, and exhibited in Mixtures otherwise conducing, or alone in another Liquor, Wine, Beer, or Broth, to the quantity of some Grains, till Hunger is observ'd to be diminishd.

148. VI. The Heart-ake so oft very grievous, is chiefly Cur'd by Opiats; which may be added to divers Medicines according to the diversity of the other Symptoms also concurring; because they mitigate and assuage both kinds of Sharpness, whence that Pain of the Ventricle arises. But they must be taken oft and in a little quantity, until the diminishing, or curing of the Pain, being the benefit sought for, be obtaind.

149. VII. The Mixture mentiond in Chap. 29. Sect. 69. to be taken by Spoonfuls, is proper in *Griping* and *Colical Fevers*. Hither reduce those things propos'd by me in Chap. 14. Sect. 45, &c. and elsewhere more at large.

150. VIII. To prevent Stourings, I commend

the Mixture prescrib'd in *Chap. 19. Sect. 74.* or one like it, oft us'd by Spoonfuls some hours before the Fit, and the other things there mentiond.

151. IX *Hypochondriac Suffocations* joind to Intermitting Fevers, are to be diminish'd and cur'd by Medicins mentiond by me both elsewhere, and in *Chap. 19. Sect. 71, &c.*

152. X. *Wheafing Anxiety* coupled to the same Fevers seeing it arises from the same Cause, but not so violent, may be Cur'd or Lessend with such-like Medicins, as well when the Fit molests as begins, and oft us'd in a lesser quantity.

153. XI. An *Asthma* accompanying an Intermitting Fever may happily be Cur'd with a *Vomit* taken some hours before the Fit comes or the day before, after the Phlegmatic Humor is cut, and especially by those that do easily vomit: Otherwise it may be evacuated downward by gentle Purgation with *Pblegmagogues* powerful and effectual, such as are all Mercurials, Colocynthis, Hermodactyls, &c.

154. As for *Phlegmatic Humors* somtimes then also *sliding down from the Head*, and *filling the Sharp Artery*, the same *Pblegmagogues* are convenient to be taken oft in a small quantity together with such as cut and correct Phlegm, and chiefly in form of *Pills*; such as we have oft prescrib'd before.

155. As for *Windy Vapors* so commonly producing the *Asthma*, either wholly, or at least much encreasing it, all things will conduce, which both *amend their matter and efficient cause*, and *hinder their rise*, and *discuss and dissipate them when bred*; concerning which see *Chap. 14.* in which the most are containd, that respect hither.

156. XII. The *Feverish Cough* is Cur'd, by such things as both *temper*, and *discuss the over-sharp Vapors*.

parts. Which *Opiats* do being join'd to Volatil and Oily Salts, and often us'd in the Fits in a little quantity, whereby they will perform it the happier, sooner, safer, and surer. To that end I commend this following Form.

R. *Mint-Water* ζ iii. *Our Carminative Spirit* ζ i.

Sp. of Salt Armoniac 20 drops. *Landanum* 3 gr.

Syr. of Fenel ζ i. S. M.

157. XIII. *Catarrhs* stir'd up together with the *Feverish Fit*, require divers Medicins to cure them, as they consist of a *different Matter*, and afflict *divers Parts*. In general their *vitious quality* is to be corrected, their *plenty* diminish'd, and the *Parts* usually afflicted *strengthened*.

158. Moreover thick and viscus *Catarrhs* are to be *attenuated* and cut with *Aromatics* before mention'd: *Serous* and *Salt Catarrhs* are to be temper'd with Oily and Opiat Things, as Pills of Hounds-Tongue, of *Styrax*, &c.

159. The Thick are to be *evacuated* with *Pblegmogues*, the Serous with *Hydragogues*.

160. The *Parts* afflicted, or that may be afflicted, are to be *strengthened*, against *viscons* and thick *Pblegm* by grateful *Aromatics*; on the contrary *Salt Serous Matter* by Glutinous Things; externally us'd in the form of a Plaster, Unguent, or Liniment; and internally in the form of Pills, Tablets, or Conserv's, &c.

161. The Cure of the *Gout* accompanying Intermittent Fevers will consist I. in the *Universal Amendment* of the *Juice of the Pancreas* propos'd before. II. In the *Correction*, or *Emptying* of *Choler* vitious either by it self, or accidentally, mention'd before. III. In the *Altering* or *Diminishing* of *Pblegm* peccant any way, often exhibited in this Tractate. IV. Lastly *Defending* the *Joints Afflicted* as well against future
T 3 Pain,

Pain, as freeing them when Pain is present and molests.

162. The Joints are defended against future Pain with external Medicins to be vari'd according to the various Humors breeding a different Pain: Which seeing less effectual ones are requir'd, then they which should overcome Pains molesting, they may easily be selected from those which are to be propos'd in order.

163. That therefore Gouty Persons may be freed Dogmatically, that is, as well by Reason as Experience, from Pains, present and molesting, seeing they are not freed always with the same Medicins, no not in the same Fit, much less all that are Gouty, we must consider it comes, in as much as the Causes of Pains are often different, not only in divers Sick People, but also in the same at another time of the Fit.

164. The Causes are Different in Divers Sick People, in as much as Cholera, and that divers, or Phlegm, also divers is coupled to the primary Cause of the Gout, the Juice of the Pancreas, also much differing.

165. The Causes of Pains of the Gout are divers in the same Sick Party but in a divers time of the Fit, in as much as the Juice of the Pancreas in the beginning hurts chiefly and that by its Sour Acrimony breeds pain; and after that Cholera is coupled to it, and either overcomes, or changes its Acrimony, breeding a divers pain according to the diversity of its faultiness, and chiefly troublesome with exceeding Heat; seeing that rather a Corroding then Burning Pain is rais'd by the Juice of the Pancreas: which is accurately to be observ'd in potently correcting both kind of Pains chiefly with special Medicins; for either Acrimony may easily and happily be mitigated,
and

and so the Pain asswag'd with more gentle ones, and chiefly with Oily things.

166. Hence it is, that Poultisses prepared of Mealy Things, and Cows Milk do conduce almost to all Gouty People griev'd with any Pain. For Example :

Rx. The Meal of Marsh Mallow-Roots, Line-Seeds, Barley, of each \mathfrak{z} i. Boil them in Cows Milk to the consistency of a Pulsis for a Poultise: Which let be applied indifferent warm.

167. Where exceeding Heat concurs, and the Body abounds with sharp Choler, instead of sweet Milk you may substitute Butter-Milk.

168. In a Phlegmatic Constitution the Meal of Beans, Flowers of Camomile, Elder, and other things gently Cutting may commodiously be added.

169. A Poultise of the best Wheat-Bread, that is the Crumb prepar'd of the Flower only of the Meal, Saffron and Cows Milk boil'd, is deservedly commended of many seeing it asswages any Pains.

170. Where Fermentations please better, I commend this following in excessive Heat to be appli'd warm, and to be renew'd as soon as it is dri'd.

Rx. Elder and Fumitory-Water, of each \mathfrak{z} iv, Mazi-gold-Vinegar \mathfrak{z} ii. Opium of Thebes \mathfrak{z} ss. M.

171. When the Pain is more Corroding, then Burning, I commend the following Fomentation in like manner to be us'd.

Rx. Parsley-Water \mathfrak{z} v. Simple Treacle-Water \mathfrak{z} i. Opium of Thebes \mathfrak{z} i. M. for a Fomentation.

172. When *Impotency of Motion* does molest the Sick more than Pain in a very Phlegmatic Body, then things more Aromatical may commodiously be us'd, both in Poulitices, and in Fomentations, and in Plasters. Unguents, or Liniments, Opiats being then usually omitted, as being less requisite or profitable. For Example;

Rx. The Root of Flower de Luce powdered ʒ i. Mint-Leaves, Wormwood Tops, Camomile-Flowers, of each 2 handfuls. Cumin-Seeds powdered ʒ i. B. Beans-Meal ʒ ii. Boil them in clean Water to the consistency of a Poultice, adding about the end Simple Treacle-Water ʒ ii. M. to be a Poultice, and appli'd hot.

173. They whose Skin can bear fat things, to them apply Unguents and Oils, such as are when Heat molests of Poplar, the White Camphorated, of Roses, the Cooling of Galens and such-like; In a Corroding Pain Aregon and Martiatum. Sometimes it is better to mix these, and make them more temperate.

174. Not long since I experienc'd the stupendious power of *Balsam of Sulphur Ambred* in a *Goutish Pain very Corroding* with great admiration, some few drops being anointed on the part griev'd, whence forthwith there was rais'd an hot Effervescency in the place afflicted, yea burning, and presently ceasing again together with the exceeding Pain remov'd in a moment. But I question and not without ground the like success in all, seeing all cannot bear Oily things, and chiefly such as are prepar'd by distillation, and Choler is sharper in many; yet I judg they in whom a Sower Juice exceeds, and Phlegma abounds may more easily bear this Balsam, and be helpt with it: Mean while beware, that its use be not

not too long continu'd, but after the pain is over, another gentler Medicin should then be us'd to comfort and by degrees restore again the membranous parts.

175. To the same purpose may Unguents, or Liniments be prepar'd of *Volatil Salts* in Hogs-Grease, Butter, or other Fat. *

176. Neither is *Campbar* undeservedly commend- ed both in Plasters, and Unguents, and Liniments, and Fomentations mixd with Spiritous things, seeing it wonderfully conduces to temper any Sharp- nesses.

177. Many also approve of their own *Spittle* rubd in in the morning to defend the part affected against new assaults: which is to be granted to Spittle, the most temperat humor of our Body, and therefore most fit to temper either sharpness, and to strengthen the Parts against them both.

178. From these few Observations it will not be very difficult to select other things necessary out of the Writings of Practitioners, and use them to cure the Gout.

179. XV. Whatsoever do both powerfully and smoothly correct and temper the Acrimony of Choler will Cure *Distracted Fevers*, such as are chiefly *Oily Things*, *Emulsions*, and *Opiats* internally us'd; and the same appli'd any way outwardly to the Head.

180. XVI. All things that fix *Choler*, and render it unfit to Effervesce powerfully, will best Cure *Vomiting Fevers*, as are all *Tart Things* that thicken and coagulate; and also *Opiats* that blunt it.

181. XVII. The same things joind together and often us'd in a small quantity at several times will Cure Fevers attended with a Looseness. For Example;

R. Con-

Rx. Conserve of Red-Roses ζ ii. Diascord. ζ iii. Confession of Jacinth ζ i. Terra Sigillata \mathfrak{D} i. Dragons-Blood \mathfrak{D} b. M. to be a Conserve taken often in a day to the quantity of a Walnut.

182. But Medicins prepar'd in a drier form are here to be prefer'd for use; because Most things too much dilute Choler, and the Juice of the Pancreas, and stir up, and rather promote, then stay their Effervescency. Whence to tame a Vomiting, or Looseness, it is better to drink sparingly, and chiefly Steeld, or Guilded by red hot Gold: whether it be Beer, or Wine, and chiefly Red Wine; or Cows Milk, &c.

183. XVIII. Sweating Fevers are not so easily Cur'd, and yield not unless to Tart Things. Which are to be us'd dissolv'd in a little Liquor, oft in a day, and also in a small quantity, whereby the volatility of the Juice of the Pancreas is gradually and continually amended and corrected. For Example;

Rx. Plantane-Water ζ iii. Cinamon-Water, Distild Vinegar, of each ζ b. Syr. of Purslan ζ i. Red Coral powder'd ζ i. M.

Take this Mixture by Spoonfuls; which if any would have more potent, let half or a whole Scruple of *Acacia*, or the Juice of *Cistus* be added to it.

184. XIX. The same newly mention'd Medicins do conduce to *Uriming Fevers*, seeing the Causes of both do only differ in degrees.

185. XX. Spitting Fevers can scarce be Cur'd otherwise, then by carrying down, and educing the Juice of the Pancreas either by Stool, or by Urin, or to the Superficies of the Body with Hydragogues, Diuretics, or Sudorifics taken in time, that is, before the Fit comes, or when it begins.

186. Although I have not given the Description of

of Fevers with the Tooth-ake before, yet I intend to annex here something of their Cure. Which will consist, beside general Remedies for the Intermittent Fever, in tempering the over sower Humor that stirs up the Tooth-ake, by Mixtures often taken by Spoonfuls before the Fit, yea during the Fit, and by a gentle educing it when temperd in the time of intermission.

187. To which end this following Mixture is fit;

R \acute{e} . Betony and Fenel-Water, of each $\frac{3}{4}$ ii. Simple Treacle-Water $\frac{3}{4}$ i. δ . Laudanum 3 Gr. Oil of Cloves 4 drops. Syr. of Arabian Stachas $\frac{3}{4}$ i. M.

188. I have oft appli'd new Treacle on Leather spread like a Plaster to the place pain'd (for seldom does one Tooth only ake) to lessen the Pain repeating with Pries.

189. Which Humor in part at least temperd with this or such a-like Mixture is educ'd by Hydragogues in the most acceptable form to the Sick, and indeed in a little Dose, but administred often. For so Pains are more happily taken away, then if Purgers were once taken in too large a dose.

190. And by what has been offerd, I judge every one may know, how to succor and help Intermittent Fevers according to the more molesting Symptoms so much differing upon their account. It remains, that we should instruct you briefly in the Cure of Quoridians, Tertians, Quartans, &c. seeing we have ascrib'd them not so much to divers Humors, Phlegm, Choler, or the Melancholy Juice, as to Phlegm Obstructing, and the Juice of the Pancreas so different.

191. Therefore in Curing these we must not so much attend to the Interval of the Recourse of each, as to the diversity of Symptoms accompanying, and chiefly

chiefly of Cold and Heat : for according to these if you proceed in the Cure, as we have taught you before, without doubt it will be happy ; as on the contrary, we have oft observ'd it unhappy or none, if the Cure be tri'd by the prejudice of every Humor then believ'd to be peccant no ways agreeing with the Humors then truly peccant.

192. For although, to illustrate the Matter with an Example, *Tertians* chiefly come in *Summer*, and indeed when the heat of the Sun molests, in *Youth* and *Manhood*, and chiefly to *Choleric* People : whence in their Cure there is then had an exact account of *Choler* much peccant both of it self, and by reason of the Feverish Fit: Yet there are some *Tertians*, which in *Winter*, when it is Frost, seiz on *Old Men* or *Children*, in whom *Phlegm* abounds ; in which case, if any attend to temper or educe *Choler* chiefly, he will wholly err. For as in most *Tertians* the effect of *great Heat*, *Choler* being then peccant, is observ'd, so in many there is none or little *Heat* molesting the Sick observ'd ; therefore a prudent Physician and free from all prejudice will vary the Cure, according to the variety hereof now being present, at other times absent.

193. What I have now said about *Tertians* will also be found true in *Quotidians*, *Quartans*, &c. by any Physician that more attends the complaints of the Sick, and Observations of the more accurate Practitioners, then the Fictions of Theoretic Authors, and considers therein a great diversity both of Cold and Heat, and of other Symptoms noted in order before ; according to which I have cur'd my Patients much more happily hitherto by Gods Blessing, then many other Physicians blinded with their own or others prejudices, so that I seriously exhort my Students to

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keep and follow the same Method, yea any Readers addicted only to Truth and their Patients good.

194. I say, we must always attend to all Humors *peccant together after what manner soever in the Body*, in the Dogmatic and Rational Cure of Intermitting Fevers; seeing they are the Cause, why *Pblegm Obstruſting* is more or leſs glutinous, why the *Juice of the Pancreas* is more or leſs ſharp, and alſo why the *Fir* varies in all its Circumſtances and Symptoms.

195. For as oft as *Choler* has dominion in the Body, Phlegm is leſs clammy, and the *Juice of the Pancreas* not ſo ſharp: and therefore the Fever will be Cur'd eaſilier and quicker when rightly cur'd.

196. But when *Pblegm* over-rules the other Humors in the Body, the *Juice of the Pancreas*, and *Choler*, and *Pblegm* it ſelf *obſtruſting* more glutinous, will be duller; whence that Fever will be ſlower in its Cure, though eaſie enough, having almoſt all the Symptoms lighter.

197. When a *Sowr Humor* abounding in the Body exceeds the other Humors; *Choler* will be more broken and ſluggiſh, Phlegm being ſometimes more glutinous, and chiefly when the Sowr Humor inclines to tartneſſ, and joind more compleatly to the ſaltish part of *Choler*, and making the *ſerous part* Salt like Urine, together with Phlegm over-fluid; and then the Fever is more ſlowly, and more difficultly cur'd.

198. And after what manner we muſt procede in the Dogmatical Cure of theſe Fevers ſo many ways different among themſelves, no leſs confirmed by large Experience, then apparent with ſolid Reason, any excellling in Ingenuity, as well as Judgment, may eaſily collect from what is ſaid. For we bid all that
are

are destitute of such endowments of Spirit, to bid adieu to Dogmatical Physic.

199. And as *Simple*, so are *multipl'd* Intermittent Fevers to be cur'd; unless the Physician have more need of circumspection here for the Interval of Intermision, or Remission, and the exact observation of fit Seasons, seeing they are sometimes shorter, other-times more seldom; which being neglected, the Cure it self is also commonly neglected, or perverted.

200. I said the *Interval*, not only of the *Intermission*, but also *Remission* is shorter, as well in *Multipl'd*, as *Simple* Intermittent Fevers; because there is oft observ'd no full Intermision of a Fever, but only a Remission, by reason of the Duplication and Multiplication of new Fits: in which time those things are chiefly to be done, which are or ought to be perform'd with some disturbance of both the containing and contain'd Body, to which *Purges and Vomits* chiefly belong: which unless they be taken in a convenient time, they oft hurt much, but profit nothing; as many Sick do daily experience to their great loss. He is therefore truly an Happy Physician, whom other mens dangers make cautious.

CHAP. XXXI.

Of Synechal, or Continual Fevers so especially call'd.

WE have before in Chap. 27. Sect. 12. taught that there were Fevers that were continually permanent, yet having new Fits daily, or in the third, fourth, or an other day; which they commonly and well call *Quotidian-Continual, Tertian-Continual, Quar-ter-Continual, &c.* Fevers, seeing that they are compounded of Continual and Intermittent Fevers concurring; although many Physicians judge and teach otherwise, being more attent to the pleasure of their Authors, then the Observation of the Sick: whence they name them not compounded, but singly *Continuals*.

2. For the most part there is no Cold observ'd in any new Fit, because the continu'd Heat of Those without Fits is wont to break, and overcome the lesser Sourness of the Juice of the Pancreas, the Acrimony and Oiliness of Choler exceeding.

3. Yet sometimes either a small Shivering, or little Stiffness is perceiv'd in any Fit; that is as often as the over-weak Acrimony of Choler cannot suppress the great Acidity of the Juice of the Pancreas whencesoever arising, but it manifests it self at least after a certain manner by cold, or a fretting of the membranous parts, and a light concussion of the fleshy Pannicle following it.

4. For the most part Intermittent Fevers; so compounded

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pled with Continuals, are *Tertians*; seldom *Quotidians*; much less *Quartans*.

5. The notable and most grievous kind of these *Tertian Fevers* is call'd *Causos*, or a *Burning Fever*, in which a great *Heat* persevering to the end vexeth, and molests the Sick; though remitting a little by *Intervals*, and hence again more grievously afflicting. And beside that most troublesome *Heat*, *Thirst* is then wont vehemently to molest the Sick; as on the contrary *Hunger* is wont to be abated. *Driness* and *Blackness* of the *Tongue* often attends these, with *Chops* and a filthy *Exulceration* of the *Lips*, horrible *Scabs* afterward growing upon them. Neither is the grievous *Head-Ake* unusual in these Fevers, together with a *Raving* vehement enough. In some the chief Symptom is a difficult *Gnawing* of the *Stomach* very troublesome to the Sick with or without *Vomiting*. The *Hicket* also grievous to many molests several. A *Looseness* overtakes others; or *Bleeding* at the *Nose*. Also often large *Sweats* are sent forth together with an intenseness of the *Fit*, or *Urin* is voided plenteously, whence the Bodies of the Sick in a short while suffer a kind of wasting; and that Fever is particularly call'd *Colliguans*.

6. In *Quotidian Continual Fevers* a *Bruising Pain* doth often enough shake the *Loins*, and *Back*, and *Lims* of the Sick. Yea sometimes with a new *Fit* of the Fever they also fall into a *Swonning*, or *Syncope*, whence it is then call'd a *Syncopeal Fever*.

7. As therefore as well *Synochal*, as *Intermitting Fevers*; so these *Compounded* of both have received a singular denomination from the grievous Symptoms accompanying, both among the Common People, and among Physicians that practice Physic, and in the Cure not without cause attentive.

8. The

8. The Primary Cause of these Synochal Fevers, whereby they molest the Sick with a great and continual Heat is Cholera peccant by too much Acrimony and Inflamedness; whence it doth not only perpetually raise a vitious Effervescency in the Right Ventricle of the Heart, but also in the small Gut, and especially the Juice of the Pancreas coming by fits being made too sharp because of its stoppage, and producing an obscure fit.

9. The chief Cause of the troubles of those Fevers with an almost perpetual Coolness or Shivering, is judg'd by me to be the Lympha, and especially all the Juice of the Pancreas peccant with a Sour Acrimony, and then continually, driving forward Vapors a little Sour out of the small Gut every way, especially at the producing of a new Fit, and so stirring up a wandering sense of Cold.

10. The Cause and Reason of the other Symptoms usually accompanying these Fevers, may be easily drawn from those things that are spoken in the preceding Chapters, so that it is not needful to stay longer on this matter.

11. So also the way of Curing Them is not hard to be taken from what is afore-said, by following the Cure of Synochals in the most, and using moreover those things in a convenient time, which will mildly loosen an Obstruction in one, or more of the Passages of the Pancreas, and correct the Juice it self hitherto too sharp.

12. The Opening of a Vein then chiefly conduces, when there is exceeding Heat; and the provoking a Sweat, by mild Aromatics and Volatil Salts, when there are signs of a Sour Humor any way troublesome; and lastly Purging by Stool or Vomit, when Cholera swells, or molests being plenteous.

CHAP. XXXII.

Of an Hectic Fever.

1. **A**N Hectic Fever is much spoken of among Physicians, in which, *an Heat a little troublesom to the Sick* is perceivd, beside *an over-frequent*, as also *Little and Weak*, and after a certain manner *Hard Pulse*; which notwithstanding is *a little sharpened* and encreas'd, *one or two hours after Meat*, and again returns a little after to its former equality, and is perceivd to be *greater about the Arteries*, then the other parts of the Body: A continual and lingring *Lean-ness* of Body following, whereby this Fever being reduc'd to its extremity is call'd *Marasmodes*.

2. Seeing that always *a little after the taking in of any Food*, and so the sending down of their more fluid part to the Guts *this Fever* is more or less *sharpened*, any may believe and not without cause that *a notable faultiness of Spittle* always concurr's to produce it, or that it depends on it.

3. Hectic Fevers are observ'd sometimes to arise immediately from the *Non-natural Things*, *too much exercise of Body*, or *continu'd labor*; sometimes from *most vehement Anger*, and especially from an *immoderate Sorrow and Sadness* of Mind: sometimes from *Watchings long continu'd*; often from *too much Hunger*, as also *Food of little, or bad Juice*, and such-like.

4. Yea Hectic Fevers are observ'd to follow other Diseases, and especially *Fevers of one day* proceeding from a great error in Diet, and also *Continual, and Intermitting Fevers* very dangerous or vehement; and
most

most frequently the *Inflammations* of *most of the Bowels*, especially of the *Lungs*, and *Apothem's*, and *Ulcers* following them.

5. And seeing *Heat is little* in an Hectic Fever, and therefore rarely troublesome to the Sick, and the *Pulse Little, and Weak*, I judge that then the *Liquor of the Conglomerated Glandul's* is chiefly peccant, and not only *Spittle*, but the *Juice of the Pancreas* also, with an *increas'd Viscousness*, and not a *molesting Sour* or *Harsh Acrimony*, although I have sometimes found *this also grievous*; Whence who can wonder or deny that *Choler* is also too sluggish? and all may see that *Lympha* is likewise too much blunted.

6. And therefore I judge the *Cause* of a troublesome *Pining* in an Hectic Fever to be *too much Viscousness of all the Humors*, and so of the *Blood*, because of which the *Nourishment* of the *Parts* is daily diminish'd: and the cause of the *Sharpness* happening one or two hours after Food is taken to be *Spittle* in like manner *too Glutinous*: by reason of which the more fluid part of Food descending sooner to the *Guts*, and meeting with *Choler* is at least in part open'd into such-like *Vapors* and carri'd to the *Heart*, and there more raref'd, stirs up the *Pulse more frequent* than is wonted, and being soon driven all over causes a *little Redness* in the face, and a *mild Heat* in the rest of the *Skin*, and elsewhere stirs up other *Symptoms* according to the divers *Constitution* of the other *Humors* and *Parts*.

7. The *Appetite* of all *Food* is diminish'd, and at last dejected by the noted *viscous Tonghness* of all the *Humors*, to wit, without an external Cause, as too much *Meat*, &c. the *Loathing* of them also attending; and moreover their *Fermentation*, *Separation of Useful Parts* from *Unuseful ones*, *Sanguification*, *Generation*

of the *Animal Spirits*, &c. is hindred and destroyd. Whence the Toughness and Sluggishness of *Choler*, Spittle, the Juice of the *Pancreas*, and *Lympha* is daily augmented, and so the Evil becom's by degrees greater, and at length incurable.

8. When an Hectic Fever is produc'd by *too much Motion* and over-long *Weariness* of the Body, then I think that not only the *Animal Spirits*, but also the *Watry* part of Blood is too much exhausted, and therefore *both Sharpness* more inwardly united being made *sharper* all the Humors are made too Viscous, and all the Natural Functions as was above said, are destroyd.

9. When an Hectic Fever arises from *most vehement Anger*, then I affirm a *Sourness* is drawn to consent by *Choler* then having an *exceeding Acrimony*, and the same being made in like manner sharper promotes the noted inward Union of both being Sharp.

10. When an Hectic Fever is stir'd up by *Sorrow* and an *immoderat Sadness of Mind*, then I think all the Humors become more Glutinous by the *Juice of the Pancreas too Tart*.

11. When an Hectic Fever is made by *prolonged Watchings*, then I think the *Animal Spirits* being too much consum'd, the *Acrimony in either Sharpness* being *encreas'd* their *Union* becoms *more narrow*, and all the Humors are bred too sluggish and tough.

12. When an Hectic Fever follows *over-long Hunger*, then I judg that the *Acrimony of both* is *encreas'd* by want of Food asswaging both *kinds of Sharpness*, and furthermore a *more compleat Union* being made the Humors become more viscous.

13. When the same Hectic Fever happens by Food containing *little mild nourishing Juice*, then that comes to pass that was newly mentiond, but slower.

14. When

14. When an Hectic Fever arises from the defect of better Food, or because of *Pica* from the neglect of Food of an evil, to wit, Glutinous, or otherwise Fat, or Sharp Juice over-long us'd, then the Humors will be over-glutinous sooner, or more slowly either of themselves, or by chance, as we have already explain'd at large.

15. When an Hectic Fever succedes *Those of One Day*, then its Original is to be requir'd according to the divers Errors of Diet producing them, as is newly explain'd.

16. When an Hectic follows *Fevers without Fits*, then, when they take their rising from *vicious Cholera*, it is to be ascrib'd partly to the *Acrimony* of Cholera according to *Sect. 9.* partly to *Medicines* that alter it, if long and plenteously us'd, and so *corrupting* and *thickning* the other Humors together.

17. When *Intermitting Fevers* turn to an Hectic, then the Humors breed it that are most peccant be they more or fewer according to what has been said.

18. Lastly when an *Inflammation* gone into an *Apoplexie* of the principal Bowels, and especially of the Lungs breeds an Hectic Fever, then the whole Mass of Blood is infected by Matter, and gets a singular Glutinousness, which being communicated to the other Humors spoils them with the same fault and renders them unfit to perform the Natural Functions rightly.

19. Although in *Leanness of Body* all the kinds of an Hectic Fever do agree, yet will the Cure of Every of them differ not a little according to the diversity of Causes so diversly producing it.

20. Yet in General, because of the hurtful *Toughness* and *Glutinousness* of all the Humors those Medicines may be us'd, which mildly amend and correct it,

to wit, all *gentle Aromatics*, and *Oily Volatil Salts*; as they that cut, and alter every Viscous Thing, and reduce it into its natural state.

21. And such are to be selected, as do most conduce to and agree with the *Constitution both natural and present* of Every Sick Person; which the Physician may easily find out and know by the Medicins that help or hurt.

22. Take diligent heed in rightly governing and directing Diet, that I. the *Air* be most temperat either naturally or by Art.

23. II. Let Food be of *easy Fermentation*, as Milk and that either *Womans*, or *Asses*, or *Goats*, or as now the custom is, *Cows*, taken whilst it is warm; *sundry Broths*, *Tolks of Eggs*, *Flesh of younger Creatures*; *Wheat Bread* rightly leavend and bak'd; *Beer* not too strong and yet fermented; *Wine* of good age and small and diluted in a little Water, &c.

24. III. Let the *Motions of the Mind* be Moderate, especially shunning those things from which the Hæctic Fever arose.

25. IV. Let the *Motion of the Body* be gentle, and chiefly, when an Hæctic Fever is raisd by its excess.

26. V. Let *Sleep and Watchings* keep a mediocrity, seeing here all excess is very hurtful.

27. VI. *The wonted Emptyings*, and especially those that are natural, and *serve the Individual*, if they do not weaken the Sick, and procede too slowly, ought to be promoted, and all the other to be shund, as all Effusions of Blood, or in Women the Monthly Courses, of Seed, and of Milk as sucking.

28. When an Hæctic com's with or succedes *Fevers Without*, or *With Fits*, then upon their account the Cure may be vari'd, according to the divers harm of divers

divers Humors differently peccant : all which may be seen in the former Chapters.

29. None can ever cure an Hectic following *Inflammations, Apostem's, Ulcers and Fistula's*, who beside the Remedies newly mentiond doth not also use *Medicins* that potently cleanse, and hence consolidate *Ulcers and Fistula's*. Among which the *Balsam of Sulphur* with *Anise*, or any other *Aromatic Oil* is not the least effectual ; as also all *Medicins* made of *Antimony*, that are more fixt, and therefore neither promote Vomiting, or Purging. Among common things all those are famous, which have the name of *Vulnerary Plants*, and are us'd in Decoctions being appropriated to the Cure of *Ulcers*, as well as *Fistula's*.

30. And now having exactly observd all, in which according to the manner of treating the divers Causes of Hectic Fevers agree or differ, the Physician will far more easily obtain his desired end in their Cure, whil'st he has both obedient, and patient Sick People, (which is seldom) and the Evil be not delayd to the last.

CHAP. XXXIII.

Of Malign Fevers.

1. **A**S otherwise any Disease or Sicknes, so a Fever takes the name *Malign*, as often as the Strength of the Sick is suddenly and unexpectedly dejected, or far more grievous Symptoms occur, then are wont to be observd in such a-like Disease.

2. The Strength that is wont to be dejected in Malign

Malign Fevers are call'd *Vital*, to be manifested and discern'd by the *Pulse* even from its beginning too *Weak*, or suddenly much *Weakened*, and by *unexpected Death* overwhelming the Sick.

3. Malign Fevers are either *Epidemical* raging among many in the same time, having a *common Cause*, as the *Air*, or *Food* vitiated, or *Privat*, affecting this or that Man only, and that for a *singular Cause*, and then for the most part known by the name of *Poison*.

4. Again they are either *Contagious*, infecting others, or *in no wise Contagious*, not harming the By-standers.

5. Again they are either *more Acute*, tending to an end in a few days, or *Longer*, continuing more days.

6. In Malign Fevers there is for the most part observ'd a light *Shivering* to precede, and *Heat* soon to follow it, seldom great, commonly more gentle, so that the Sick scarce use to complain thereof. Their *Urin* for the most part differs little or nothing from healthy peoples *Urin*. The *Pulse* is indeed *Frequent*, but withal *Little* and *Weak*, and always unequal, sometimes *Intermitting* or *Deficient*. Often *Drowsiness* or a kind of *Lethargie*, seldom *Watchings* urge. The Sick are often vext with *Turbulent Dreams*, and *unquietness of Body*. They have often *Gripes in the Stomach* troublesome enough, and sometimes *Loathing*, yea moreover *Vomiting* also; and the *Head-Ake*, and sometimes *Raving* or *Giddiness*. A greater *Thirst* often, than *Heat of Body* and of the *Jaws*. All the *Members* seem sometimes *weari'd* with much *Labour*, and as it were afflicted by weariness. Sometimes there happens *Choleric*, and *Fetid Loosnesses*. A *Drooping* or *plenteous flux of Blood out of the Nostrils*

stirils or Womb doth often concur ; and the *Blood* that drops or runs out of its own accord most commonly will not clotter. *Spots and little Pimples* divers both in colour and greatness sometimes break forth in the outside of the Body ; and *Tumors* in the *Glandul's*. Sometimes the *extream parts* soon wax hot, and again are presently cold. *Sweats* either none, or very plentiful come forth, by which unless the Sick get ease, especially when they are promoted by Art, there is no hopes.

7. From all which *Symptoms* rightly consider'd, and compar'd with those which are known by Experience both to resist Malignity, and overcome it, I judg the Cause of Malign Fevers, if not always, yet at least is most commonly a Salt that is both volatil and sharp, which will weaken the somewhat sour Liquor of the *Glandul's*, and make it sluggish, and of little force : whence the natural Consistency of the Blood is diminish'd, and therefore its Rarefaction deceiv'd, and often the separation of the Animal Spirits hinder'd ; and hence the other Symptoms above-mention'd are produc'd ; according as that Sharp Volatil Salt is drawn with the Air by Inspiration into the Lungs, and thence into the Blood also, or is swallow'd down with Food or Spittle into the Stomach, or creeps in through the Pores of the Body or insects, weakens and spoils the Liquors of the *Glandul's* first, or them together with the Blood. And hence depends the variety of divers Symptoms observ'd several ways in Malign Fevers ; as also from the other Humors found in the Body of any.

8. The Blood therefore being less consistent sustains a less rarefaction, whence the Pulse becomes, not only Little, but moreover Languishing ; yea besides the Vital Fire kindled and sustain'd in the Blood is more easily

oppress, and extinguish, and *Death unexpected* often overwhelms people unfit for it.

9. I think the *Cause* of all Malign Fevers to *come from without*, and never to be produc'd by it self in the Body from the Humors corrupted of their own accord, for it proceeds from a Fire exceeding sharp, which is not in Choler.

10. Mans Body as well Containing, as Containd is defended and *preserv'd* against all such Malignity in a Volatil Sharp Salt by the frequent and moderat use of *Sowr* things, and especially a little Tart.

11. But this *Volatil and Sharp Salt*, the Cause of the noted Malignity, is *Corrected and Amended with the same*, and also *Oily* things, but especially mixt with a *Sowr or Tart Earth*. To which appertain all *Potters Clay* and *Seald Earths*, *Bole Armeniac*, the *Earth Lemnia*, &c. and so every *Mineral or Metallic Sulphur* (rightly prepar'd) of *Vitriol*, *Antimony*, &c. Hither reduce those that are commonly known Treacle, *Diafcoridium*, &c. Yea to correct this *Salt*, mild, and *Oily Volatil Salts* conduce, as moderating and asswaging its hurtful Acrimony.

12. *Sudorifics drive forward* and expel most safely and commodiously *out of the Body* the same *Sharp Volatil Salt* more, or less temperd, or at least to be temperd by it. For it is known by manifold Experience that the Cure of Malign Fevers is most happily instituted by this manner and way.

13. Simple *Sudorifics* are not only approv'd, but those compounded also, Treacle, Mithridate, *Diafcoridium*, and infinite other Opiat Confections devis'd of several to imitate the former, and so us'd. Wherendke this Note from me, that they are always to be preferd, which can also temper the Acrimony of the Volatil Salt, which will therefore be commodious to be added to the rest. For Example ; R.

℞. *Old Treacle* ʒ ii. *Diaphoretic Antimony* ʒ i. *Syr. of Carduus Benedictus* ʒ ii. *Our Preservative Water* ʒ i. *Cinamon Water* ʒ ʒ. *Scabious-Water* ʒ ii. M.

Let the Sick take a fourth or fifth part of this Mixture, and dispose his Body to Sweat, and after half an hour let him again take one or two Spoonfuls, and so let him go on, till a profitable Sweat follow. Mean while, if he be very thirsty and the Tongue be dry, let him moreover drink upon it a little Broth first temperd to a gratefulness with some sour thing, the Juice of Citrons, Oranges, Verjuice, Vinegar, &c. whereby the breaking forth of the Sweat will not only be promoted, but moreover the hurtful Acrimony of the peccant Salt will be corrected.

14. This *Poison* is seldom to be sent out by a Vomit, nor at all, unless when part of the hurtful Salt sticks in the *Stomach, or Guts*, and a *Loathing* also urgeth: and then I prefer before all others *Antimonial Vomits*, but mild and fixt, because they have an admirable Sulphur in them, whereby any sharpness is wonderfully temperd.

15. By vertue of this Sulphur I commonly add to the other Sudorifics or Altering Mixtures *Diaphoretic Antimony*, or *Mineral Bezoard* either single, or variously compounded, and other Sudorifics rightly prepar'd of *Antimony*.

16. After that Malign Poison that is found in the Volatil and Sharp Salt, is carri'd out of the Body by Sudorifics sufficiently and rightly us'd, they must persist for some time in a moderat use of Sour things a little Harsh mixt with Drink, whereby the former *Consistencie* may by degrees be restor'd to the Blood. Therefore Verjuice, Pome-Granats, Quinces, Oranges, Berberies, &c. conduce here.

17. We intend to speak farther of the Nature, Harms,

Harms, and Cure of the Volatil and Sharp Salt, when we publish our Thoughts, and Observations in a peculiar Treatise of the *Pest*; mean while these may give an occasion to the diligent Searchers of the Works of Nature to search and find out more.

CHAP. XXXIV.

Of an Universal Languishing, as also of Swooning and Syncope.

1. **S**EEING that Chyle is made of Food taken in, Blood of Chyle, of Blood both all the other things containd in the Body, and all the Containing parts of the Universal Body are nourisht and encreas'd, with good cause respect is had to the Blood, wherein both the Strength, and the Reasons thereof are examin'd, weigh'd, and determin'd.
2. Therefore seeing the generation and first preparing of Blood of Chyle begins in the Right Ventricle of the Heart, and is finish'd in the Left, and the repairing and renewing thereof more or less decaid, and here and there depriv'd of several parts, and therefore flowing back to the Heart, many Evils do necessarily befall Man even here by the intricate ill-affected Change which happens to the Blood in the Ventricles of the Heart: which among the first manifest themselves to every one, and especially to Physicians by the Pulse being variously chang'd.
3. We deriv'd Fevers hitherto from the Pulse being beside Nature too frequent, as the only common, and proper, and so Prognostic Sign of all Fevers; there being other Symptoms distinguishing every one of

of their kinds, and degrees from one another: The next thing now is that we may draw and in a few words explain other *Diseases from a Little and Languishing Pulse*.

4. These *Diseases*, which are observ'd various both by reason of the accompanying *Symptoms*, and distinct in degrees, are signifi'd in general by the names of *Imbecillity*, or *Debility*, in special by the name of *Swouning*, *Eclufis*, *Leipothymie*, *Leipopsychie*, *Apopsychie*, *Asphyxie*, *Syncope*, and others.

5. We will not curiously inquire here into the Original of all these Words, seeing that words are as they are us'd, however many vex themselves and others; but into the Nature, Essence, and true Causes of those *Diseases* denoted in those names, and in Practice giving trouble to Physicians attend on the Cure of the Disease.

6. A Universal *Languishing* of all the *Parts*, and *Functions*, and *Strength* is sometimes observ'd, either bred from the *Nativity*, or rising after it by degrees and insensibly, or coming, or remaining after some Disease preceding. This they call *Infirmitie*, *Imbecillity*, or *Debility*; which has for its Companion both a *Little Pulse* less then it ought to be, and *Weak* and more *Languishing* then should be, and oftner more *Rare*, and sometimes *Intermitting* once, or oftner by certain or uncertain *Intervals*, and sometimes more and more deficient call'd *Minus*, according to the Passage of the *Artery*, and often *Creeping* or *Wrigling*.

7. *Dulness* of the *Internál* and *External Senses*, and *Defect* of the *Animal Motion* of *Body*, known by the name of *Weariness* do usually concur in this Disease when more grievous.

8. *Weakness* is also observ'd sometimes, not permanent,

nent, or continually persevering, but orderly, or disorderly, and so repeating sometimes at certain, other-times uncertain Intervals, one while lightly, another while grievously afflicting the Sick, the same returning one while sooner, another while more slowly, unless it take away and kill the Sick.

9. If any would constitute two kinds only most different in degrees, and not unfit to the method of Curing this *Imbecillity* and *Debility*, he may point out the *lighter kind* by the name of *Swouning* and *Leipothymie*; the *more grievous kind* by the name of *Syncope*, *Leipopsychie*, or *Asphyxie*.

10. In all *Swouning* the *Pulse* is *Less* and *Weaker*, so that in its *lighter kind* it can scarcely be perceivd, and not at all in its *more grievous kind*. The *External* and *Internal Senses* commonly are both *darkned*, or also *cease* to act. The *Animal* or *Voluntary Motion* also is *weak*, or *none*. And so *Respiration* it self is found to be either *obscure*, or quite *deficient*.

11. For the most part a *Cardialgie* or *Tickling* in the *upper Orifice* of the *Ventricle*, or a *compression* of the *Heart*, and *Tawning* uses to precede and foretel a *Swouning*; and sometimes a *Distension* of the *Belly*, a *Croaking*, or *Gripes*; *Dimness* or *Darkness* are before the *Eyes*, with a *Giddiness*, and a *Tinkling* in the *Ears* accompanying, or suddenly following them; *Stretchings*, and often *Convulsive Motions*. For it is to be noted, seeing that *Swounings* do not only differ in degrees, but also in *number* and *vehemency* of *Symptoms*, that it does not seize on all always after the same manner.

12. When the *Swouning* is again *loosd*, and the *Sick* seem to return to themself's, then the *Heart* is wont to *stir* again, yea often to *palpitate*; and the *Pulse* is not only felt by degrees *greater*, and *stronger*, but also

also more frequent : and the External, together with the Internal Senses, though never so Languishing as yet, being by degrees restor'd, the anxiety and compression also of the Heart, and other Symptoms are observ'd to be diminish'd, and at last vanish away ; unless that Weariness, and Tiring of the Universal Body depart more slowly.

13. The most grievous, and singular kind of Swouning is the Syncope, in which the Sick fall on a sudden as it were surpris'd with cold Air, a sudden and almost unexpected Tinkling in the Ears preceeding ; presently there is no Pulse nor Respiration observ'd ; which is proper to the Syncope, and most grievous Hypochondriac Suffocation : Mean while a cold and glutinous Sweat breaks forth ; and all the Parts of the Body wax cold and pail, yea often Urine and the Excrements come away ; so that they are more like dead than living.

14. Seeing all these Diseases are manifested by both a Less, and more Languishing Pulse, you may call to mind what we handled in Chap. 26. of the various Differences of Pulses, and their Causes ; whereby you may the easilier understand, that which is chiefly to be observ'd here, to wit, that an Universal Languishing, and a Swouning, and Syncope are the Symptoms of the Vital Function ; that is, next pertaining to Life.

15. Seeing therefore that in all the noted Diseases the Pulse is observ'd both Less, and more Languishing than is Natural, I think that their Cause is always Glutinousness encreas'd in the Blood, and the other Humors sever'd from it ; and also sometimes an encreas'd Acidity in the Juice of the Pancreas, Lympha and perhaps also in Spittle it self.

16. When the Infant hath got such-like Blood, and
such-

such-like Humors in his Mothers Womb from *overglutinous Seed of the Parents*, or at least by the *Mothers Blood*, then he will have an *Universal Languishing* bred with him often occurring in Practice.

17. When, though the Infant be born in health, the Man contracts sooner or later an harm like it in the *Blood*, and all the *Humors* by degrees from the *faultiness of Diet* often above noted, then that *Universal Languishing* is call'd *Acquir'd*, often obvious in Practice.

18. Lastly when *too much Glutinousness in the Blood* comes, or remains after any *Disease* that rises not slowly, but speedily, and of late not rightly Cur'd by the fault of the Physician, Patient, or By-standers, then that *Universal Languishing* may be call'd *Symptomatical*, too frequent in Practice.

19. I said *after a Disease not rightly cur'd by the fault of a Physician, Patient, or By-standers*; For the *Physician* may be deceiv'd and cure the Patient amiss, especially when he is blinded and conceited with Prejudices not enough minding those things that Help and Hurt, and had rather his Patient should die, then he change his own Opinion, though never so erroneous and confuted, the condition of the Sick growing daily wors and wors.

20. Here also *may the Sick be in a fault*, when he doth not only neglect or despise the safe Counsel of a Prudent Physician, but especially is abus'd to his hurt by hurtful things.

21. Yea, also the *By-standers* may err, when they are not only too indulgent of the morose Sick, but moreover dissuade them from the best Prescriptions of Skilful Physicians, instead of which they dare give them hurtful and forbidden things.

22. I added *that too much Glutinousness might come*

to, or remain in the *Blood* and *Humors*. It Comes to the *Blood*, when Medicins that Thicken and Stuff the fluid and thin *Humors* are too much, or too long us'd. It Remains in it when Medicins that Cut and Attenuate are not given strong enough, or long enough in Diseases arising from the Glutinousness of the *Humors*.

23. When *Acidity* is joind with *Glutinousness* of all the *Humors* encreas'd from a great error in Diet in the *Liquors* of any Glandul's, and especially those of the *Pancreas*, then either a *Swooning*, or also *Syncope* is easily joind to the *Universal Languishing*, according as both Errors are lighter, or more grievous: although it is no new thing that a *Swooning*, but not *Syncope* is produc'd without a notable *Claunquiness* of *Humors*; which I think was scarce ever observ'd without it, but rather *Death* the *External Cause* being most grievous: as indeed more is requir'd to produce a *Syncope*, then *Death*.

24. Because there is a less *Rarefaction* of *Blood*, and therefore a less *Pulse* in an *Universal Languishing*, by reason of the *Toughness* encreas'd of all *Humors* that constitute or produce the same *Blood*, it becoms of necessity *Weaker*; for unless the *Ventricles* of the *Heart* be much dilated, they cannot be much, nor therefore potently straitned. Add that *Blood* tough and clammy is unfit to breed plenteous and subtil *Animal Spirits*; for which cause also the *Pulse* will be weaker then is natural.

25. The *Pulse* will also then be more *Rare*, because all the *Humors* are more *Mild* shall I say, or more *Dull*, and therefore raising a weaker *Effervescency*, and less provoking the *Heart* to Contract it self, either upon the account of its *Acrimony*, or *Effervescency*,

and so of the *Vapors arising*; unless the *Pulse be more stir'd up* in regard of any *External Cause*.

26. And this is the usual Generation of an Universal Languishing; but the *Production* of a *Swouning* and *Syncope*, Diseases more difficult to be known, and explain'd, as it is usually describ'd by the *Vital Spirits*, which because it satisfies not me, I will endeavour to deduce it otherwise by degrees in a few words from their manifest Causes, as more known Principles.

27. Both a *Swouning*, and sometimes a *Syncope* is observ'd to follow; 1. *Certain Smells* inspir'd with the *Air*, either grateful or ungrateful of themselves, as of *Musk*, *Civet*, *Roses*, *Cinamon*, &c. the *Smoak* of a *Candle* put out, &c.

28. 2. The *sight* of *Things* or *Persons* ungrateful and envid'd breeds a *Swouning* in some.

29. 3. The same is observ'd to be by the *Taking* in of *those things* that are any way ungrateful.

30. 4. *Prolong'd Hunger* is a common cause of *Swouning*.

31. 5. Among the *Passions of the Mind* *Joy* exceeding has been observ'd to produce a *Swouning*, or *Syncope*, and sometimes *Death* it self. —It has been known that the same has often come to pass by a *vehement Terror*. A *Swouning* doth not seem so much to come by *Sorrow*, or *Anger*, as that a *Man* is dispos'd to it; who will sooner fall into this Evil, if he be mov'd successively and suddenly by both the contrary *Passions* of the *Mind*; that is, if an unexpected and great *Joy* happens about the same object to one that is *frownsful* or *fearful*; if *Terror*, and *Fear*, and therefore *frownsfulness* unite one that is very *Angry*.

32. 6. A *Swouning* or *Syncope* is wont to come upon

upon a *Great Effusion of Blood* out of the *Nostrils, Womb, Hemorrhoids, or other Vessels* open'd and wounded by *Art, or chance or mischance.*

33. 7. The same happens to too great an *Effusion of Seed*, coming away either of its own accord, or especially by immoderat *Venerie.*

34. 8. The same often is after an *over-great Evacuation of the Humors* by *Vomit, Stool, Urin, Sweats, &c.* and especially when it com's with great *Pains, or a vehement Agitation of Body.*

35. 9. The same com's to pass when either the *Water of Hydropical Persons, or Matter in those that have putrefi'd Lungs* is pour'd out excessively.

36. 10. The same is observ'd to come to pass by a *Sting or Bite* of certain *Poisonous Creatures.*

37. 11. This same Evil accompanies the *Fits* of certain *Intermitting Fevers*, either soon in the *Beginning*, or often in the *Encrease*, or in its *Vigor*; seldom when it *Declines*, unless perhaps by too large *Sweats.*

38. 12. Sometimes a *Swooning* comes upon certain very vehement *Pains of the Teeth, the upper Orifice of the Stomach, the Guts, Bladder, &c.*

39. 13. The same *Swooning* oppresses some after too much *Motion* and extreme *Weariness of Body.*

40. 14. Sometimes a *Swooning* is produc'd by a great *Heat*, either of the *Sun, or Fire, or Bath, or Fever.*

41. 15. Nor is it seldom that a *Swooning* happens by *Hunger, or Thirst too long and sorely vexing.*

42. 16. Yea sometimes *Swooning* happens to certain *Women giving Suck* by too great loss of *Milk*, chiefly depending on the *potent sucking of a strong Infant*; and sometimes by the very grievous *Pain* of the *Clefts of the Paps, or otherwise ill-affected.*

43. From the mention'd and such-like manifest Causes diligently considerd, and diligently compar'd with those, which we have before propos'd we judge every *Strouning* is to be deriv'd next and immediatly from the Blood it self coming from both parts to the Heart, and all those, which are joind both according to, and beside Nature, and are carri'd together with it to the Heart, and so disturb and change its natural Effervescency, that the Rarefaction of the Blood is not only diminish'd, but the Heart it self is not enough expanded, and contracted, and the Blood not sufficiently effus'd into the Arteries, and therefore the Pulse is felt Less, and more Languishing, yea sometimes None.

44. For if to make a laudable Pulse be requir'd as we think, 1. Blood returning from every and both places to the Right Ventricle of the Heart: 2. *Choler* joind to the ascending Blood; 3. *Lympha* returning from every place with the Descending Blood; 4. A singular *Liquor* arising and soon after strain'd through the Lactical Veins from the conflux of *Choler*, and the Juice of the *Pancreas* and *Spiittle* in the Small Gut; and perhaps 5. Air attracted into the Lungs by Inspiration, and mixt in some part of it with the Blood circulating through them, whilst the rest is again thrust out in the Expiration next following; and sometimes 6. *Chyle*, although it be not always, but after Food taken is driven to the Heart. I say, if all these be requir'd to make a laudable Pulse, as every one should be both present, and rightly dispos'd: but if one or more of these be wanting wholly or in part, or be there in a larger plenty, or come thither endow'd with a strange quality; or others go together also not requir'd, and therefore necessarily hurtful, without doubt there will be some wrong to the Pulse beside the spoiling of the Functions wont to be in the Heart.

45. And

45. And to remain in our present business, 1. *the Pulse will be deficient more or less in greatness and strength*, by an Universal Defect of Blood, after a notable Hemorrhagie or Hunger much prolong'd: whence the Blood will not only be deficient, but other Humors also in the Body, Choler, the Juice of the Pancreas, Lympha, and the rest that are necessary to make the Vital Rarefaction of Blood, and so the Pulse great.

46. 2. The same Pulse will be deficient in Greatness, and hence in Strength by *the defect of Choler* in a great Looseness and Vomiting, and especially the Disease Cholera; whence if Choler be carri'd to the Heart in a lesser quantity, and at length perhaps none, is it a wonder, if a less, or no Effervescency be stir'd up in It? if there be a less, or no Rarefaction of Blood? if a less, or no Expansion, and Contraction of the Ventricles of the Heart follow, and the Pulse be felt either Less, or None?

47. 3. The same Pulse will be Deficient in Greatness, and hence in Strength, by *the Defect of Lympha* with too Great a Sweat; with which that the Lympha is also diminish'd beside the Animal Spirits, Acids no less, then Spiritous Volatil Medicins much recreating and restoring those that Sweat seem to evince. By the defect of Lympha somewhat Sowr the Mean Consistency of Blood, and its Effervescency will be deficient, whence it will neither enough rarefie in the Heart, nor will its Explication, and Complication be great enough; whence the Pulse will also be observ'd of necessity Less than is Naturally.

48. 4. The same Pulse will be Deficient in Greatness, and hence in Strength, by *the Defect of the Liquor arising from the Three-fold Sway in the Guts in a*

troublesom Vomiting and Loosness, especially continual. For this being in part, or wholly excluded, the Blood will necessarily want its benefit; we judg in an other place that it conduc'd to procure *the natural Coagulation* of Blood; if therefore the Blood be more or less destitute of it, and is not repaired continually for want of this, as is newly said, the Blood will be less apt to rarefie, and open the Ventracles of the Heart, and the Pulse will necessarily follow a Less.

49. 5. The same Pulse will be Deficient in Greatness, and hence in Strength by *the Defect of Air to be Inspir'd* in any straitness of *the Mouth, and Nostrils, or Jaws, or sharp Artery*; for which the Air coming in less plenty cannot bestow the desired coolness on the Blood, or any other Change; wherefore the Blood being driven through the Lungs more slowly, and not making a sufficient place for the new Blood following out of the Right Ventricle of the Heart, hinders the Contraction of the Heart, and is the Cause of the Pulse hitherto Less.

50. 6. The same Pulse will be deficient in Greatness, and hence in Strength, by *the Defect of Chyle*, both in a preposterous *Hunger*, whether voluntary, or compeld, and in the *Fermentation of Food, or Separation, or Transcolation, or Conveyance* any way hindered. For unless Food be taken daily, and especially in the accustomed time, by which the Chyle drawn from it may be carri'd to the Heart, the Blood continually lost will not only be unrepaired, but the Humors flowing together in the Heart, and Small Gut, will act too much or amiss upon themselves, and the rest of the Blood, and sometimes will make the Blood more or less consistent, and hitherto unfit to the due, or sufficient Rarefaction of it self, and the Explication and Complication of the Ventracles of the Heart;

Heart ; whence there will necessarily follow a Less, and Weaker Pulse.

51. The Pulse will be *Less, and more Languishing*, not only by the Defect but sometimes also the Excess of the fore-nam'd *Humors*. For 1. the *abundance of Blood*, call'd a *Plethora*, hinders, that the Blood by the defect of space and place cannot be expeld plentifully into the Arteries, nor therefore the same be much, and enough raref'd in the Right Ventricle of the Heart ; nor that the sides of the Heart can be much unfolded and again folded.

52. Yea 2. *Choler being carri'd in a greater plenty to the Heart*, especially in *Burning Fevers*, doth not only rarefie the Blood more then is wonted, and too potently, with an over-great and strong Pulse ; but after it has at length fill'd all the spaces of the Vessels in that too great rarefaction by distending them, and constituting the *Plethora at or in the Vessels* so call'd, or to be call'd, however it keep the hurtful Heat, yet it cannot for want of Space spread out the Blood as before, and produce a Great and Strong Pulse ; which is rather observ'd *Less, and Weaker* gradually by the deficient Rarefaction of the Blood, and the Explication and Complication of the Ventricles of the Heart ; till by any effusion of Blood there is a new Place prepar'd to receive the rest more raref'd, together with a greater and stronger Pulse soon concurring.

53. 3. *The Lympha somewhat sour, if it com's in too great plenty to the Heart* will also make the Pulse Less, and so more Languishing ; because it will give a more firm and solid Consistency to the Blood, then that it can be duly, and enough raref'd, sufficiently to dilate the Ventricles of the Heart, whither a notable

constriction may succede altogether necessary to make a Great and Strong Pulse.

54. 4. The same is to be said of that *Three-fold Liquor of the Small Guts*, if especially its office be, to give to the Blood a natural coagulation, depending on a somewhat tart sower Liquor: For when this is encreas'd, the Coagulation also of the Blood will be encreas'd; on the contrary its fitness to rarefie will be diminish'd, the Pulse will be diminish'd, and will also become Weaker.

55. Seeing that a great plenty of laudable Air drawn into the Lungs cannot but be useful, a Lesser, or more Languishing Pulse cannot be expected nor derived from it.

56. Yet 5. may the Pulse become Less and Weaker by Chyle carri'd to the Heart after any manner in a greater plenty; in as much as it fills the Vessels of blood too much, & both effects & encreases a Plethora.

57. If both the Blood, and other mention'd Humors carri'd with it to the Heart could produce a Less and more Languishing Pulse, the quantity being either deficient, or exceeding, certainly they will no less perform the same, when they are peccant in an hurtful quality. For 1. the Blood either too fluid or solid, is unfit for its laudable Rarefaction, which being deficient we have often already shown you that a Less, and more Languishing Pulse follows.

58. So 2. Choler Glutinous, and not sharp enough will less effervesce, and more sparingly send forth fiery parts; whence the Blood will less rarefie, and at length the Pulse will be Less and Weaker.

59. 3. Lympha either too Sower or Tart will not only render the Blood more glutinous, and so less fit to rarefie, but moreover will not only blunt Choler, and its fiery parts whence ever breaking forth, and

so will give occasion both for a *Less*, and more languishing Pulse.

60. 4. You may think, and speak the same of the fore-nam'd *Three-fold Liquor* either *too sour*, or *Tart*.

61. 5. *The North and sharper Air* conduceth much to coagulate the Blood much, and hinder its Rarefaction.

62. If 6. Food *too Sour* or *Tart* be taken in, the *Chyle* will also be made like it, from which the noted inconveniences may be expected with a *Less* and *Weaker* Pulse.

63. A *Less* and *Weaker* Pulse is caus'd also by other Things carried to the Heart beyond the *Laws of Nature*, when the *Humors* are either corrupt in the Body, or *Vapors*, or *Wind* rais'd by them, or *Poison* piercing in at the Mouth, Nostrils, or Pores of the Skin, or any other way into the Body come to the Heart together with the Blood, and either too much loosen or dissolve, or too much coagulate, or curdle the Blood, or render it unfit any other way for its due Rarefaction, as we have before explain'd at large.

64. And that we may more closely apply all, that we have hitherto premis'd, to a *Swouning* and *Syncope*, and deduce more clearly the Nature and Generation of both Diseases, because in both the Pulse is not only observ'd *Less*, and *Weaker*, or *None*; but the *Animal Functions* also, *Sense* and *Motion* are not a little weakned, let us see if, and how so divers Diseases can be produc'd of one, and the same Cause.

65. The Symptoms therefore, which are wont to be common to each Disease are to be considerd, and distinguish'd, from those, which are peculiar to a *Syncope*; for a cold and glutinous Sweat breaks forth in a *Syncope*, but not in a *Swouning*, in which not so much

much as *Coldness of the Universal Body* is always observ'd, although it be constant with a *Syncope*; but the other Symptoms are often wont to be noted in each Disease. Whence it is manifest that these Diseases do partly differ in degrees, partly something more grievous uses to accompany a *Syncope* continually.

66. If any examin with an attentive Mind all the Symptoms fore-mention'd, as also the *External or Manifest Causes*, and compare them with those which we have now deduc'd largely of a *Less*, as well as *Weaker Pulse*, he may easily conclude that each Disease, and especially a *Syncope*, do's chiefly arise from a *slow Liquor* carri'd in a more large plenty to the Heart, which obtains rule in the Blood; not neglecting in the mean while the *Glutinousness of several Humors*.

67. That this may be more evident, we are pleas'd to weigh both the noted Symptoms, and the mention'd Causes in order, and for Younger Physicians sake, especially Learners, build all things on a *slow and glutinous Humor* abounding.

68. We have said the Sign of a *Swooning* at hand is for the most part 1. a *Cardialgie*, or *Tickling in the upper Orifice of the Stomach*. And what is more apt to stir up each of these Diseases, than a *slow Humor*? Which if it be milder, and ascend to the upper Orifice of the Stomach in the form of a *Vapor*, will only tickle and gnaw the said part; but if it be too sharp, will bite the same, and cause a troublesome Pain, known by the name of *Cardialgie*.

69. We added 2. that sometimes a *Compression* and *Gaping of the Heart* precedes. Although the Compression of the Heart is caus'd by a *Pblegmatic Humor* both plenteous and glutinous, and gaping from *Flatulent Vapors*; yet because these Diseases are observ'd

not

not to urge the Sick so perpetually, as to infest them before the Swouning suddenly to follow; therefore we must acknowledg another Cause also, and that either deducing unactive Phlegm into act or producing Windy Vapors from the same; it is very evident that a *Sour Humor* is requir'd both to stir up and encrease the force of Phlegm, and to breed Vapors that cause Gaping; because, especially if it be a *litttle Tart*, it will make the *Phlegm* more glutinous, which may produce the *Sense of Heaviness and Compression* sooner and more potently; and raising an *Effervescency* viciously and victoriously with *Choler*, as we taught you happend in the *beginnings* of the most of the *Intermitting Fevers*, giv's occasion to *Windy Vapors*, and so to *Gaping* it self.

70. We said 3. that a Swouning did sometimes precede the *Distension of the Belly*, *Belches*, or *Gripes*: all which seeing they arise from Wind either very mild, or sharp, deduc'd and deriv'd from *Phlegm* either *viscous* only, or also *sour* at a certain time, and a little before a Swouning, the Truth of our Sayings is abundantly manifest.

71. We taught you 4. that *Dimness and Darknes* before the *Eyes*, together with a *Giddiness*, and *Tinkling in the Ears* did often precede a Swouning. And who knows not that all these arise from *Vapors* rising from the lower parts to the Brain, one time mild, another time sharp, having alwayes *Viscous*, often also *Sour Phlegm* for its Matter, and troubling wonderfully the *Motion of the Animal Spirits*.

72. 5. Lastly we have Observ'd that *Retchings*, and *Convulsive Motions* do sometimes also precede Swouning. And because the *efficient Cause of Retching* uses to be the same as that of *Gaping*, and they only differ in the part affected, hither you may transfer

fer what we have told you before of Gaping. And because that *Convulsive Motions* arise (as we intend if God permit, to shew you in the following Book) from an *Humor*, or *Vapor sharp*, but withal *sew* *corroding* and *pulling the Beginnings of the Nerv's by course*, our Opinion is not a little so confirm'd.

73. And now we have declar'd the Symptoms that usually precede a Swouning, let us also run over the others very notable which are wont to accompany It: Among which although a *Pulse Less*, and more *Languid*, or *None* at least manifest to Sense cannot be reckon'd the last, yet because for that end we have already mention'd more of its Causes, lest we do one thing twice, let us go on to the other Symptoms.

74. In every Swouning therefore the *Internal*, as well as *External Senses* are drawn into consent, and are *always darkned* more or less, yea sometimes they *cease from all their Operation*. And that the reason of this wonderful Effect and Event may be more manifest, I would have the Younger Physicians to consider, (for Old Men, and such as are Compleat in the Art of Physic need not mine information) That in every *Giddiness*, which we told you did for the most part precede a Swouning, and especially its more grievous kind, the *Internal*, as well as *External Senses* were troubled, and after a manner darkned. And seeing that it is known by manifest Experience that the *swift Turning round of an External Thing* seen, or of the *Body* it self produces Giddiness, the *Animal Spirits* in like manner being mov'd round, at least *confusedly stir'd*; why should we doubt, when the same Spirits are in like manner mov'd, disturb'd, and perhaps turn'd round by Vapors in the Body very much mov'd and rising up to the Brain; that the *Senses* as well *Internal* as *External* are not only trou-
bled

bled and disturb'd, but also darkned, so that they seem to cease for a time? For, if they then do any thing which is unknown to them, yet the disturb'd and confus'd Mind, not being in its power keeps no Remembrance thereof.

75. These things being thus laid no wonder, if in a Swouning the *Animal* also, or *Voluntary Motion* be *Diminish'd* or *Abolish'd*; and *Respiration* it self either *Obscur'd*, or *Deficient*. For the *Animal Motion* follows the orderly and perpetual, and also by the Will determin'd (as the matter and the various Disease require) Motion of the *Animal Spirits* through the *Nervs* to the *Fibres* of all the *Muscles*, or those selected; of which *Motions* seeing neither can consist intire with the disturb'd, and pervers Motion of the *Animal Spirits*, it is necessary, that in such a case the *Animal Motion*, and *Respiration* also it self should be sprain'd, and loosend.

76. But the *External*, and *Internal Senses*, and *Animal Motion* will not only cease for a time because of the disturb'd Motion of the *Animal Spirits*; but also by reason of *their Motion hindred or taken away*; which may be, when they cease to be bred and separated from the *Blood*, because the *Mass of Blood* is coagulated and made unmoveable by any *sowr*, and chiefly tart thing. For there is need to perform the *Internal* as well as *External Senses*, and *Animal Motion* that the *Animal Spirits* should be freely and plenteously mov'd to all their *Organs*; although it is easier to fancy according to pleasure, then to point and demonstrate solidly what they are, which peculiarly serve the *Internal Senses*: Yet do we observe in any attent Function of the *Mind* that the *Brain* is intent, and many *Animal Spirits* as it were to be spent and consumed; which may so long suffice to assign some *Organ* to the

the Internal Senses, until all these can be more distinctly conceiv'd by the External Senses, and be explain'd to others, and at last the Assent of every one be mildly compeld to have the same Opinion.

77. But let us yet confirm the propos'd Cause by those things, which are wont to be observ'd, when a Swouning ends. For we said that then the Heart was by little and little mov'd, and did palpitate. Therefore the Cause of Swouning was such, as hinder'd the Motion of the Heart, and which being overcome and conquer'd, Motion is restor'd unto it.

78. If therefore we have given you the true Cause of the Motion of the Heart in short before in Chap. 26. Sect. 3. and in more words have explain'd it in our first Disquisition of Fevers, certainly then the Effervescency in the Heart Ceasing to Sense, and the bursting forth of the Fiery Parts much Diminish'd, and the Rarefaction of the Universal Blood Deficient, and therefore the Desir'd Motion and Pulse of the Heart will be attributed to the Glutinousnes, or Acidity of Humors confus'd with the Blood: which is then actually renew'd, when at least in part the extreme force and harm of a Glutinous, or sower Humor is corrected, or conquer'd, and that by Choler, or any Aromatic Liquor mov'd to the Nostrils, or rather pour'd into the Mouth, or lastly elsewhere outwardly apply'd, and piercing to the Heart, or any other Fire, or Fomentation of the Evil.

79. For then not only the Blood again rarefies more and more by Choler, or Aromatics us'd successively obtaining rule over a Glutinous and Sower Humor, but moreover Vapors or Wind are produc'd, by all which the Ventricles of the Heart are again Open'd, the drovvie and sluggish Animal Spirits are stir'd up, and anon the same Ventricles are Foulded in, and so the

Blood

Blood has its Motion Restor'd, yea it becoms more stir'd and disturb'd, that is, there is a Palpitation of the Heart; of which in the next following Chapter we intend to say more.

80. Nor, is Motion restor'd to the Heart only, when a Swouning is ended, which most commonly is inordinate and with palpitation, but the Pulse by degrees gets its lost Greatness, and former Strength, although in the beginning it is also more Frequent: the Cause and Manner of all which is newly given.

81. When the Cause of so many Evils is corrected and destroy'd by degrees, as was said, no wonder if the other Symptoms also be eas'd by degrees, and taken away; seeing that when the Cause is taken away the Effect ceases.

82. The Functions which were last weakned, seem to return also more slowly; although all these vary not a little according to the divers heat, and fomenting of the evil: which any meanly vers'd in Practice, and attent to all may easily observe, and attain them by what has been said.

83. The Symptoms always joind to a Syncope, also here to be weigh'd in a few words we shew'd you was Coldness and Paleness of all the Parts of the Body, but especially a Cold, as well as Glutinous Sweat; to which is joind perpetually an extreme Anxiety of the Heart, troubling the Sick no less, then if Death were at hand; and no wonder, seeing it is often a certain Messenger of Death hastning.

84. If any can by solid and consequent reasoning deduce that chill Coldness both in the Body, and in a Sweat from any thing else, then from a Sour Humor in Man, he will not a little make me admire him, seeing that in my continual and solicitous Practice of

near forty years, and laborious observation of all external Causes, I found nothing yet in *rerum Natura* that can manifestly breed Coldness in Man beside a Sour Humor, and whatsoever partakes thereof: as I have testifi'd it in several Exampl's in this Treatise and elsewhere.

85. Seeing I am certainly perswaded that Coldness may, and is wont to be produc'd in Man by a Sour and only Sour Humor, I may on good grounds think that a *Sour Humor, or Vapor is the Cause of a Cold Sweat, and Body in a Syncope* mixt from some other place with the Blood, and carri'd to the Heart, and driven forward together with the Blood every way, and sticking in the outside of the Body, and there affording a Sense thereof both to the Sick and By-standers, and Physicians themselves. And this will I think and suppose so long, till an other demonstrate another Cause hereof evident enough.

86. The same Sweat is *Glutinous* by reason of a *Pblegmaic Humor dissolv'd* by the noted *Sour Humor*, and together with it expeld out, and of its own accord again congealing and coagulated without the Body.

87. *Paleness* happens to the *Universal Body* by reason of the same *Sour Humor* every where bred, especially when there is *Glutinous Pblegm*, an Imitator and Companion of the *Sour Humor*.

88. *An extreme Anxiety of the Heart and Mid-ife, unexplainable by the Sick*, doth manifest partly the hot Original or the Evil, that is to say the Belly, and the Parts disburdening themselves into the Guts, and especially the *Pancreas*, partly the *Expelling of that Evil*, a *Humor* not only *Sour*, which may breed Pricking, or Corroding, or Boring Pains, but *more-over Glutinous*, which firmly adhering to all the Parts goes more slowly and difficultly from the same, and ther-

therefore urges more stubbornly; and being deduc'd by *Choler* oppress'd, into *Viscons* and *Tough Vapors*, and *Wind* encreases the noted *Anxiety*.

89. And so I seem to my self clearly enough to have deriv'd the rising of an *Universal Languishing*, and of *Swouning*, and of the *Syncope* from *slow and glutinous Phlegm*, partly from an *Acid*, and sometimes also *Tart Juice* mixt with it; it remains, that we subjoin the Method and Reason of Curing those Diseases by abridging prolixity with brevity. For it doth not seem necessary here to repete many things afore-said with a vain and unprofitable Labour; seeing that when the Disease is rightly describ'd and known, its Cure is easily understood and done.

90. The Cure of an *Universal Languishing* may be always in that respect instituted alike; which cannot be said of the Cure of *Swouning* or a *Syncope*, because these Diseases return by Fits, and then they sorely molest the Sick, out of which they give them respite; which to the Physicians is the best opportunity of preventing new ones, in no wise to be neglected, seeing they are wont to be perilous.

91. There ought always to be a continual, and slow *Correcting and Amendment* of a *Glutinous and Phlegmatic Humor* for an *Universal Languishing*, and also for a *Swouning and Syncope* fear'd; and an *Emptying* thereof, by *Stool* and *Urin* chiefly with repeted turns, where it do's together abound, or cannot be wholly amended.

92. Because we have often before treated of the *Correcting and Emptying* of a *Phlegmatic Humor*, whether we send the studious Reader, we only intend to annex here some forms of the more select Medicines for the sake of Younger Physicians.

93. Therefore to Amend the *Phlegmatic Glutinous*

Humor abounding, both in the Universal Body and Blood a *Medicinal Wine or Beer* prepar'd with several Aromatic parts of several Plants, daily to be us'd both at Dinner and Supper time, and at other times in a small quantity, according to the diversity of the Age, Sex, and Languishing it self may conduce. For Example, from Roots only.

Rx. *The Roots of Angelica, Galangal, Acorus, of each ʒ i. of Smallage, Alicampane, Fenel, of each ʒ ii. of Lovidge ʒ i.*

Cut and grossly Beat them, then sew them into a Bag somewhat long, and put them into a Stone, or Glass Vessel of a strait Mouth, then pour on of *laudable Wine* ʒ xxx or thereabout, and let it be in a Cellar all Night, in which time the Aromatic Strength of the Roots will be communicated to the Wine, a draught wherof, as is said, may be taken twice or thrice a day, and another Wine may be poured on instead of what was drunk, so long, till near all the Aromatic Strength is extracted; for then new Roots may be taken, but first dried in the Shade; which is always to be observed in all the Aromatic parts of Plants to be us'd by Infusion.

94. If any please to use *Medicinal Beer*, then instead of Wine, let them pour upon the aforesaid Roots their usual Beer, although then I prefer that which is Bitter before the Sweet, and Observe it is safer every Night to pour upon the Roots so much Beer, as will be drunk the next day; because the strength of Beer soon fades, unless shut up in an Hoghead; whence sometimes whole Hogheads, sometimes greater, sometimes less, not only of Beer, but Wine also so Medicin'd are prepar'd for daily use; whether they be Roots only, or if other parts also of Plants be put into them, in more plenty.

95. If

95. If *Aromatic Leavs* be preferd, you may use the following Form or one like it.

R. *The Leavs of Rosmary, Majoran, Hyssop, Sage, Garden-Rue, Mountain-Calamint, Curld Mint, Wild Time, of each Man. ʒ. Cut these in like manner and put them into a Bag, and pour upon them Wine, or Beer, and use it as was said daily.*

96. Seeing many approve of *Wormwood Wine*, if the tast of Wormwood please you, you may add some of it to the rest.

97. When the Sick detain'd with a Universal Languishing are also molested with *Wind*, then *Aromatic Seeds* may in like manner be us'd before other parts of Plants, and many may be prescrib'd according to the Form, and imitation of the following Form.

R. *The Seeds of Coriander, Sweet Fenel, Anise, of each ʒ ii. of Smallage, Parsley, of each ʒ i. ʒ. of Cardamom, Carua, of each ʒ i. Beat them round, and put them into a Bag, pouring upon them Wine or Beer for daily use.*

98. Such Medicinal Wines and Beer may be prepar'd most commodiously of sundry parts of Plants joind together after the Example of the following Form.

R. *The Roots of the Aromaticall Reed, Alicampane, of each ʒ ii. the Leavs of Majoran, Sage, of each Man. i. the Flowers of Rosmary, Clove-Gilliflowers, Arabian Stechas, of each 2 Pugils. Seeds of Poley Mountain, Sweet Fenel, Sharp Cinnamon, of each ʒ ii. Nutmegs, drier Orange Peel, of each ʒ i.*

Cut, and roundly Beat them, put them into a Bag, and pour upon them presently Wine or Beer in a convenient Vessel for Use.

99. Although Medicins that Amend Glutinous Phlegm may most commodiously be continu'd for a time in the form of Wine, or Beer, yet may you both prescribe, and use the same in the form of a *Powder*, *Electuary*, *Tablets*, *Decoction*, *Pills*, or any other more pleasant to the Sick. So many *Aromatic Species* are in use among Practitioners, most convenient in this case, such as are *Diacalamint*, *Diagalangal*, *Dialacca the Greater*, *Diambra*, *Dianthos*, &c. To which if four times, six times, or eight times as much Sugar dissolv'd in a convenient Water be added, they may easily be reduc'd into *Tablets*. The same if put among Honey, or a fit Syrup, will make convenient *Electuaries*; to which you may also add divers *Conjers*. For Example;

℞. Conserve of the Flowers of Betony ʒ i. of Rosemary, Eye-bright, of each ʒ li. the Species Diambra ʒ ii. Diagalangal ʒ i. Syr. of Mint, what suffices M. for a Conserve. This Conserve is to be eaten sometimes in a day to the quantity of a Nutmeg.

100. I cannot contain my self, without admonishing Younger Physicians here, diligently to beware in Correcting Glutinous Phlegm, that they use not Medicins with much Sugar and very much Sugard; seeing that Phlegm is not so much thence amended, and loosned, as encreas'd, yea daily made more glutinous. Whence after an ill, yea the worst manner, even here in *Belgia* the fruitful breeder of all sorts of Phlegm, many Physicians negligent of those things that Hurt use, shall I say or abuse, the *Conserve of Red Roses* daily taken in a large quantity in almost every Cough continu'd a while threatening a Consumption of the Lungs, yea rather furthering it already begun; whence the *Ulcer risen in the Lungs* is not only not cleans'd,

cleansd, dri'd up, and consolidated, but moreover a Sense of Weight and intolerable cold is raisd in the Region of the Stomach, together with the Appetite dejected, and by this means the Evil is at length incurable. Which evil manner of some they imitate, who after the manner of Beasts follow the Flock of them that go before, and go whither they go, not whither they should go.

101. What I have newly said of the Conserv of Red Roses, may also be understood of Emulsions ill us'd in this case by certain, even Old Physicians, whether they be made of *cleansd Barley*, and the *greater cold Seeds*, so call'd, or *sweet Almonds*; because they ought only to be us'd seldom to assuage some Symptoms, and again be laid aside. And that the Matter is so, Experience will teach every one that desires to be Wise, being also the Mistress of Fools.

102. They who are better pleas'd with Pills, then other Forms, may have these and some like them prescrib'd.

Rx. Gum Galban. prepar'd with Vinegar ℥ ii. White Amber, select Mastich, of each ℥ i. Male Frankincense, Red Myrrh, best Castor, of each ℥ li. Vitriol of Mars dri'd white in a slow fire 3 li. distild Oil of Mace 8 drops. Make them into forty Pills to be guilded.

Three or five of these Pills may be taken at any time, and especially in the Morning fasting, or in the Evening one hour after Supper, or at both times; wherby they will correct Phlegmatic Humors sooner, and more potently, or more slowly, and more mildly, and at length do the same benefit to Man.

103. If an Old Wives Veneration posses any of the Old Physicians only delighting in Decoctions, he

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may here also imitate them, and use the following Form of Prescription, or one like it.

Rx. The Roots of Valerian, Acorus, of each ʒ ii. of Smallage ʒ i. the Herbs of Betony, Balm, Horebound, Savory, Scabious, the Tops of Centaury the Less of each Man. ʒ. the Leavs of Rosmary, Roman Camomile, Arabian Stechas, of each i Pugil. the Seeds of Sweet Fennel, Bishops-Weed, of each ʒ ii. the Berries of Juniper ʒ i. of Laurel ʒ i. ʒ. Boil them on a gentle Fire (the Vessel being clos'd) in clean Water, to ʒ xl. To what is strain'd, add Syr. of Oak of Jerusalem, Hyssop, Mugwort, Stechas, of each ʒ i. Tincture of Cinamon ʒ i. ʒ. M.

Two or three ounces of this Decoction may be once or twice daily taken at any time: Least any should in vain trouble himself, thinking with many who are less mov'd with Reason, then with Custom that all Medicins are safely taken only when the Stomach is empty of Food, seeing I have found the contrary true in many cases, especially as to those that Alter and Correct the Humors. For I have daily Observed that *Altering Medicins*, but mild, which only I would have Physicians use, are often us'd, a little before or after Food taken in, yea together with them, then at another time with greater benefit to the Sick: Nor is Reason contrary to this Experience, for so the power of the Medicin mildly mixes and incorporates it self not only with Spittle in the Stomach, but with the Three-fold Humor flowing together in the small Gut, yea also to the Universal Blood, and all the other Humors in the Right Ventricle of the Heart, and all the Arteries, and Veins: whereby the desired Amendment and Correcting of It, or Them, is performed sooner, easier, and more happily.

104. Hitherto we have propos'd Medicins commonly known and approv'd of all; and if any being taught to be wiser then common People erect his Mind to *Chymical Preparations*, and Medicins more effectual, and so more safe, if they be both rightly prepar'd, and administred, we will commend unto him both *Tinctures*, and *Extracts*, and *Oils* artificially made of the foresaid, and *Volatil*, especially *Oily Salts* to be prepar'd by Art of most of the Parts of Living Creatures, and to be conveniently us'd: Which seeing they are usually not so ungrateful as common Medicins, may be taken in a much less quantity, and will work both sooner, and more mildly, and more effectually, are deservedly desir'd of the Sick enough afflicted of themselves; so that it may well seem to a Phylician (rejoycing in the name of Favourable) unworthy even unhuman, not to be willing to ease (when he can well enough) the Infirmary, Loathing and Queasiness of the Sick with a more grateful Medicin, much rather then willingly to add affliction to the Afflicted. Wherefore I think that benign Phylicians, and such as do accommodate themselves and their Medicins any way to the natural infirmity, and sometimes Squeamishness of the Sick are to be preferd before those which are so morose. For it is far more easie and decent, though with some pains, and often great enough, for any Phylician to seek out, and by trying to find Medicins more grateful to the Sick, then for a Sick Body being delicate, and much afflicted with the Disease, and therefore sometimes loathing the most grateful things, and the most pleasant Meat and Drink, yea at the sight or smell of Medicins presently Loathing, and sometimes Vomiting, to take and keep in his queasie Stomach, with a violence offerd to Nature, any Medicins, especially

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cially nauseous, and in a large plenty. Which how advērs it is to sound Reason, he that has Reason may judg; and how much with the complaints and detriment of many Sick, as is known to all, the same is tri'd, and obitinatly defended, by some hard-hearted Physicians; and especially, seeing there is a more commodious, and easier, yea safer way brought into Use, and already long continu'd by other Physicians no less learned and well vers'd in an happy Practice.

105. In a Universal Languishing, of which we speak, they know best, who have for some time us'd *Medicins Chymically prepar'd*, when their Use should be continu'd long, how usefully and happily they may be us'd, and deservedly commend the same to others; for so the desired Health, to be prefer'd before all earthly good things is obtain'd, and gain'd with less trouble and almost insensibly.

106. *Pblegmatic and Glutinous Humors*, producing an Universal Languishing, may and ought not only to be corrected, but when they also abound, or cannot be wholly amended, *are to be Diminish'd* also, and *Educ'd out of the Body*, and chiefly by *Stool and Urin*; which is easier, and more happily perform'd, after that they are at least in part corrected after the afore-said manner.

107. We have already given you many *Forms of Medicins that Evacuate Viscous Phlegm by Stool*; wherefore resting with them for the present we will add one here, which may carry it down to the *Kidneys and out with the Urin*, in the Form of a *Decoction*.

Rx. The Roots of Smallage, Eringo, Asarabacca, of each ʒ i. the Leafs of Hemp-like Agrimony, Nettles, Chervil, of each Man. i. Seeds of Sweet Fenel, Hartwort, Saxifrage, of each ʒ ii. Boil them

them in clean Water, to ζ xxx. straind add, Syr.
of the Five Roots ζ iii. Sp. of Salt dulcifi'd, or
Volatil Salt of Amber ζ i. M.

Let the Sick drink a Draught of 3, 4, or 5 ζ . of
this twice a day when the Stomach is empty of Meat,
that is, at least five hours after Meat is taken in. It
will be better, if us'd hot or at least warm.

108. *Volatil Salts* daily taken, even with Food
will do the same; as not only amending and cutting
Glutinous Phlegm, but driving forward part therof
to the ways of Urin, and expelling it in the form of
a Setling: which by degrees is deficient in Urin, and
therefore gives an undoubted sign that the most part
of Phlegm is corrected and overcome: which even
therefore is here admonisht for *Younger Physicians* sake,
because there are Elder, who being less vers'd in pre-
paring the best Volatil Salts, and less exercis'd in ad-
ministring them, and therefore less accus'd in ob-
serving their strength do oppose the same more indi-
rectly, then directly not without some suspicion of
Envy. And so many blame what they know not,
and will not learn with hard-working: as though
to turn over the Writings of some, and unskilfully,
to esteeme or praise this or that Man's Opinion be-
fore others as he lists without experience were suffici-
ent to get a solid knowledg of Natural and Medicinal
Things. But Skilful Practitioners deride such un-
skilful Censurers, and Theoreticks though very high
Pretenders, not only in curing the Sick, but in pre-
paring Remedies. I speak all these things by Expe-
rience, though mine Adversaries and other Malevo-
lents fret at it; for whose sake also I conceal not a
few things, which otherwise I would liberally de-
clare.

109. These may suffice for the Cure of a Univer-
sal

sal Languishing: and because we said that an *Acid Liquor*, and especially that of the *Pancreas* did concur with *Glutinous Phlegm*, to produce a *Swouning* and *Syncope*, a consideration of each Humor deservedly ought to be had; wherfore always a *Correcting*, and often an *Educing* of the *Acid Humor* also is then to be instituted, and indeed in *Prevening* those Diseases, when the *Fit* is not present; which being present, and *urging*, Medicins more *Effectual* and *Spiritous* are to be us'd, which can soon pierce to the parts most affected, and soon remove the danger of Death at hand.

110. Those *Aromatics* abounding with a *Volatil Salt* which we said could amend *Viscous Phlegm*, are often said before likewise to conduce to temper and correct a *Sour Humor*: Therfore Medicins newly prescrib'd in divers Forms may conduce to both; which let suffice that I have said it once.

111. *Hydragogues* commonly call'd, serve to educe the *Acid Humor* temperd; which we have often mentiond and prescrib'd before, wherfore we will only add one Form here.

Rx. Gum Sagapen, dissolved in Vinegar and again thickned 5 lb. Rosin of Jalapp ʒi. Magistery of Gum-Gotte ʒ lb. Oil of Juniper Berries 3 drops.
M. Make them into fifteen Pills guilded, or done over with Licorish Powder.

Let the Sick take five, or more, or fewer, as he is more difficult or easie to be purg'd.

112. I purposely omit *Aloes* in the most Pills prescrib'd by me; because it is wont to open the *Hemorrhoids* in many with trouble, and sometimes harm.

113. When the *Fit* of *Swouning* and the *Syncope* is near, and the Signs of it above-mentiond appear, you may give those things that are fit to concentrate power-

powerfully, and discufs *Vapors*, and somewhat *Sower*, and somtimes also *Glutinous Wind*; which we lately said were requir'd to be very efficacious and subtil, wherby they may pierce every way and be joind to them. And such are both *Spiritus*, and *Volatil Oily Salts* united most intirely by the help of Art. —

114. Therefore all *Volatil Oily Salts* conduce, prepar'd by Art especially of several parts of *Living Creatures*, or *Plants*: *Aromatic Tinctures* drawn by the help of *Spirit of Wine* rectifi'd either by *Infusion* only, or *Distillation* also of divers *Spices*, or any parts of *Plants*, as also *Living Creatures*. All which ought to be dissolv'd in convenient *Liquors*, and often given to the Sick. For Example out of parts of *Plants* only;

Rx. *Mint*, *Fenel Water*, of each $\frac{3}{4}$ i. *Scurvygrass Water*, *Aqua Vita* of *Matthiols*, of each $\frac{3}{4}$ lb. *Laudanum* 2 grains. *Syr. of Mint* $\frac{3}{4}$ i. *distild Oil of Cloves*, and *Mace*, of each 2 drops. M.

115. Let none wonder that in the propos'd Mixture to be taken often by Spoonfuls, I add *Laudanum*, seeing we have often before asserted that *Opium* hath an exceeding power to hinder, and mitigate the vitious Effervescency of Sharp Humors both in the small Gut, and in the Heart, and elsewhere; without which Effervescency hurtful and somewhat Acid Vapors, and such as cause the Diseases which are now to be Cur'd, are not wont to be rais'd.

116. Several things prepar'd (and very efficacious) of the parts of *Living Creatures* may be added to the foresaid Mixture, or one like it, as the *Tincture of Castor*, the *Salt Spirit of Salt Armoniac*, or *Urin*, the *Volatil Salt and Oil of Blood*, *Bones*, *Horns*, *Horns*, *Horns*, &c. the Oils should be rectifi'd, and not only be freed in part from the smatch of the Fire but moreover be made

made more piercing, and more potent. Which Rectification is commodiously done with *Spirit of Wine Tartariz'd*.

117. The newly mentiond Volatil Salts, and Oils may be given in a Spoonful of any Liquor, Water, Wine, Beer, Broth, &c.

118. None, but he who has tri'd, will be easily perswaded of the wonderful efficacy of the aforesaid Medicines, and their exceeding power not only in preventing, but moreover in diminishing and soon curing Swounings and the Syncope. For these Remedi's may be us'd not only before the Fit, or when it comes, but when it molests, by warily pouring in a little of them into the Mouth, and by applying or anointing the Nostrils with them: For their volatil force is every way disperst and piercing to the inmost parts is easily joind to its like, that is, Volatil Vapors, and alters, changes, tempers, and corrects them, so that they cease not only to provoke or pull the Sensible parts, or affect them with a sense of Coldness, but chiefly too much to condens the Blood, and so far to cloud Life, and almost blot it out with their Acidity.

119. Others, also may be us'd when a Swouning or Syncope urges, as is usual, which may stir up any External Senses, such as are Frictions of the External Parts, Shoutings, Application of Sharp Things about the Nostrils and Mouth, of Vinegar, Rhenish-Wine, Cinamon-Water, Aqua Vitæ of Matthiæolus, the Apoplectic, Antepileptic, Treacle, &c. Waters. Manifold Fuming as well moist as dry, Vinegar alone, or joind with Cinamon, Cloves, or others, Amber, Partridge-Fethers, and such-like well enough known by the common People.

120. When the Fit is ended either of its own accord,

ord, or by Art the *Strength* both *Animal*, and *Vital* for the most part prostrated, is to be recreated by *Spiritous*, as well as *Aromatic Medicines*. For the *Animal Strength* is wont not a little to languish afterward, whether or no because the *Spirits* are not bred in the *Brain* during the *Fit*? yet are they restor'd forthwith with strong *Wine*, or its *Spirit* sparingly us'd.

121. And *Aromatics* use to repair the *Vital Strength*, so call'd, whether or no because they do more agree with *Choler* which is not a little broken and weakned both in the small *Gut*, and in the *Heart* by *Acid Vapors*? If therefore some *Aromatics* be joind with *Wine*, or the *Aromatic Spirit* of *Wine* be us'd, both *Faculties* being *Debilitated* may be helpt by one, and the same *Work*. For *Example*;

Rx. *Betony-Water* ℥ ii. *Aqua Vita* of *Matthiols* ℥ i.
Confection of Alkermes ℥ i. *Syr. of Burrage* ℥ i.
M. to be us'd often by Spoonfuls.

CHAP. XXXV.

Of the Palpitation of the Heart.

1. **T**He *Palpitation of the Heart* is deservedly refer'd to its *Motion* and *Pulse* deprav'd against *Nature*, which I think is to be esteem'd its *Convulsive Motion*; seeing it is indeed an *inordinate, forc'd and often also vehement Motion of the Heart*. For there is not always a notable vehemency, whence the *Palpitation of the Heart* uses to differ much in degrees.

2. This *inordinate Motion of the Heart* may be manifested by the *Pulse of the Arteries* in part and after

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after a certain manner, yet not plainly and fully; whence there is need, that for the most part the Hand should feel under the left Pap: although in a vehement Palpitation of the Heart the same Motion may be seen, as also heard often at a notable distance.

3. For it happens sometimes, that there is such a vehement Palpitation of the Heart, and such a smiting of the Ribs, that they are broken by it, or driven forth in younger and more tender People, and remain sticking out.

4. There are also, as we hinted before, some degrees in the Palpitation of the Heart upon the account of its greater or less vehemency; whence sometimes it will not be manifest unless you apply your hand to the Brest; sometimes it is soon manifest to Seeing, and also Hearing.

5. Take the *Cause* of the Palpitation of the Heart to be, whatsoever is apt to stir it up to the inordinat, and sometimes also vehement Contraction of it self without intermission; whether it be containd within the Ventracles of the Heart, or in its Substance, or it be without the Heart, yet continually pulls, bites, or pricks it for a time or always. Whence a certain Palpitation of the Heart is noted perpetually troubling the Sick, another urging for the time and again urging, or wholly departing.

6. Whatsoever is effus'd out of the Veins and Easlets into the Ventracles of the Heart, and is again soon expeld by its Contraction into the Arteries, becoms sometimes the Cause of a Greater, or more Potent Pulse, but not of Palpitation; to produce which there is need, that its Cause should stick to or in the Heart, and continually provoke it to Contract
it

it self, which therefore will be both inordinat, and unequal, and besides together vehement.

7. Now having examin'd, and weigh'd those things, which I have both observ'd in the Sick troubled with a Palpitation of the Heart, and also seen noted of other Physicians, I judg this Palpitation of the Heart for the most part, arises from *Humors, or Wind very Viscous and together Sharp carri'd to the Ventricles of the Heart, and sticking in them, and continually provoking the Heart to an inordinat, and unequal Contraction of it self.*

8. These Humors, and Wind, may be more frequently carri'd out of the small Gut to the Heart, whether they be driven forward *of their own accord* being mov'd by their vitious Effervescency; or being stir'd up are carri'd by a more stir'd *Motion of Body*, especially in their ascending a steep place, or a grievous *Passion of Mind*, Anger, Fear, Sorrow, or Joy; or be in like manner constrain'd, or urg'd by an *External Cause* as the *Heat or sharp coldness of Air*; by sweet or sour *Food*; by a potent; and that sometimes sweet, other-times ungrateful, or like *smell of any thing* to raise an Effervescency, and produce Vapors as well glutinous as sharp, to be transmitted to the Heart.

9. Hence it is, that in the most kinds of *Hypochondriac Symptoms*, the Palpitation of the Heart is so frequent, and familiar.

10. Hence it is, that so often about the *beginnings of Intermitting Fevers*, while Cold still urges, or remits, as also in their Vigour, when the Heat is exceeding, the Palpitation of the Heart is perceiv'd troublesome.

11. Beside the noted Humors, and Wind sometimes there are observ'd *Fleshy Tumors, or Bone-like or Grissle-*

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file-like Excrescencies in the substance of the Heart, to which a Palpitation being joind till Death, was not undeservedly ascrib'd.

12. *Worms* found in the *Pericardium* by pricking the Heart, or a *Sharp Humour* by biting may be the Cause, of an unwonted *Palpitation*; as also a *Wound* given to the Heart.

13. The Causes noted in the two latter Paragraphs as they are difficult to be known, if not impossible, so neither can they be cur'd.

14. The most frequent kind of Palpitation of the Heart mentiond in the former place when the Fit molests may be Cur'd, if it rise from Wind, by Medicins that both Cut, and Discuss, and especially Temper an Acid Acrimony, often propos'd before. For Example;

Rx. Parsley, Fenel-Water, of each ζ i. \bar{s} . Matthisius his Aqua Vita ζ i. distild Oil of Mace 4 drops. Sp. of Salt Armoniac 20 drops. Laudanum 3 Grains. Syr. of Mint ζ i. M.

Let the Sick take one Spoonful of this Mixture every quarter of an hour, till he get some ease.

15. If the Palpitation of the Heart be thought to be produc'd from a Viscous and Sharp Humor, the same Altering Medicins that Cut and Temper Acrimony are to be us'd: yea sometimes, if the Fit persevere long, (which is usual) use those that empty out the Humor.

16. To Cut and Temper the nam'd Humor the Mixture newly prescrib'd, or one like it may conduce: And to Educe it I prefer before all others, Pills to be made of Gums, seeing They loosen the Glutinous Humors, and dispose them to be easier carri'd out. For Example;

Rx. Gum-

R. Gum-Galbanum dissolv'd in Vinegar of Squills, and again thickned ʒ lb. Vitriol of Mars calcin'd white ʒ i. the Troches Albandal ʒ lb. Diagridium 15 Grains. Oil of Carua's 6 drops. M. make them into xxv. Pills, to be guiled.

Take five or seven in the Morning, the Stomach being empty; drinking upon it half an hour after, Broth, or Beer boild with a little Bread, and aromatiz'd with Mace.

17. They who abhor Pills, may use a Decoction prepar'd of such as Cut, Aromatics and Purgers; for which end we commend the following very bitter and efficacious.

R. The Root of Smallage ʒ i. of Angelica ʒ i. Shavings of Lignum Sanctum ʒ iii. Berries of Laurel ʒ ii. Pulp of Colocynthis ʒ i. Seeds of Carua ʒ ii. Orange-peel ʒ ii. Boil them according to Art in pure Water, in ʒ xxx. of what is strain'd, dissolv the solutiv Syr. of Roses with Senna ʒ iii. Sp. of Wine rectifi'd ʒ ii. M.

Let the Sick take ʒ iii, iv, or v. If the Sick purge little or nothing by so much, he may drink as much, or more, as the Phylician thinks fit, either in the same day or the next, and so diminish and educe the hurtful Humor by easie purging.

18. Out of the Fit such-like may and ought to be us'd both *Alterers* and *Emptiers*, and that daily. For the nam'd Humors cannot be weakned unless in length and continuance of time: which are also to be educ'd by Intervals, being more stubborn, and past amending: where it is safer to empty them at times, and by degrees, then to cast the Sick into more grievous Diseases by trying the same together and at once.

CHAP. XXXVI.

Of the Flowing of Blood out of the Left Ventricle of the Heart through the Great Artery to all the Parts of the Body deprav'd.

1. **T**He Blood being perfected in both Ventricles of the Heart and the Lungs between is carri'd at last through the infinite Branches of the *Aorta* or Great Artery to all *Parts of the Body*, wherby *They* may be *Nourisht*, and out of it *Liquors* farther *Useful* or *Unuseful* for their dispensing in Mans Body are *separated* in several places, and again *sent back* to the *Mass of Blood*, or are *excluded straight out of the Body*.

2. This *Flowing* of Blood through the Arteries is *deprav'd* somtimes, either *Universally*, or in some *Parts*; and that 1. when it *flows* too slowly, or not at all; or 2. is *mov'd* too quickly, or too *potently*; or 3. so *flows into the Substance or Cavities of the Parts*, that it *sticks there*; or *flows out of the Body*.

3. The Blood *flows Universally* too slowly, or also is quite *stopt* and *stands still in its Motion*: 1. in the *Plethora* call'd in the *Vessels*, by *defect of a sufficient space* to receive the Blood perfected in the Ventricles of the Heart, and therefore also *more rarefi'd*.

4. 2. In a *Strouning* and *Syncope*, as also a *Universal Languishing of the Body*, because the Blood is not fit to *rarefie*; as was largely said and explain'd in *Chap. 34.*

5. The same Blood *flows particularly more slowly through the Arteries*, or is also somtimes *stopt* and *stands still*

still because of any kind of *Straitness* in the *Arteries* of *some Part*, and especially a *Compression* or *Obstruction*; for I can scarce conceive that a *Stopping* *Uniting* together, or *Setling* can have place in the *Arteries*.

6. The *Arteries* may be *Comprest* by an *over-hard Tumor* near them, by *hard binding*, &c.

7. The *Arteries* may be *Obstructed*, and especially the *Capillaries* both by *Glutinous Phlegm* carri'd together with the *Blood* through Them, and either of *its own accord* or by degrees again *closes*, or *coagulated* by the *Cold* of the *Air* piercing thither through the *Pores* of the *Skin*, then *compacted* from the *Blood* It self because of *External Cold*, or a *Sowr Humor* injoining it self thither.

8. The *Blood* is *Universally mov'd* through the *Arteries* too *swiftly*, or too *potently* in all *Burning Fevers*, as well *Continual*, as *Intermitting*, as long as the *Pulse* remains not only too *frequent*, but together *Greater* and *Stronger* for after that the *Blood* is then so far *raref'd*, that it distends the *Vessels* too much, and makes a *Plethora* at the *Vessels*, the *Pulse* usually becoms both *Less* and *Weaker*; till by *letting Blood* by opening a *Vein* a *greater space* is prepar'd to receive the *Blood*, and together the *Vital Fire* being near *Suffocation* is as it were *recreated* and stir'd up by the same means; whence the *Pulse* also is then again both *Greater* and *Stronger*.

9. In like manner the *Blood* mov's *Universally* too *Potently*, and too *swiftly* in the *Palpitation* of the *Heart*, because of the *Heart* as well forc'd, as provok'd to an *over-frequent* contraction of it self.

10. The same happens after a notable, but not extreme *Effusion* of *Blood*, and that either of *its own accord*, or *artificial*, or by *chance*, to wit, by a *Wound* receiv'd casually or by force.

11. *The Blood mov's more swiftly and potently to a certain and determin'd Part, because of Blood effus'd out of the same, yet not in too great or high a quantity; because, where this happens, the rest of the Blood is carri'd thither, yea is so carri'd out, that by its defect the Vital Fire is diminish'd in the Heart, and the Blood deficient, and little, however rarefi'd there, can less open the Ventracles of the Heart, and therefore can less provoke its Musculous Substance to contract it self, therefore the Blood is less driven every way, and at last fails, unless Life be speedily helpt, after a Universal Languishing.*

12. *The Blood effus'd flows into the Substance of the Parts, or Cavities of the Body, and is gather'd there out of the Arteries any way internally open'd and lying open: as the same flows out of the Body and Arteries hurt about the superficies of the Body.*

13. *A Plethora at the Vessels for its Causes argues an healthy Constitution of the Body, and a more liberal use of the best Food, a Mind void of Cares, little Exercise of Body, much sleep, and such-like.*

14. We have spoken of the *Causes and Cure of Blood less apt to rarefie* in Chap. 34. where you may see them, which make hither.

15. We must speak elsewhere of the *Rising, Causes and Cure of several Tumors*; and of an *Obstruction of the Vessels of Blood*, and its *Causes, Effects* and manner of *Curing* it, we intend to propose more in Chap. 40.

16. Of *Fevers*, as also a *Palpitation of the Heart* we have professedly treated before; but of the several Differences, and *Causes, and Cure of Wounds*, perhaps we may comment elsewhere, God willing.

17. We will therfor admonish on'y one thing among many

many that make for a Cure of the noted Diseases from the Flowing of Blood through the Arteries deprav'd of Curing a Plethora at the Vessels so call'd soon, and safely; to wit, that it may be absolv'd by a sufficient letting Blood out at an open'd Vein: where I would have you observe, that according to the proper Constitution of every one to be Cur'd the Blood be let out at one, or more times, and that sometimes in a greater, sometimes in a less plenty.

18. The Encreasing of the same Plethora may be prevented; 1. by diminishing the quantity of Food which is of much and laudable Juice; and by substituting in its place Food of more difficult Fermentation, and that which contains less of a nourishing Juice.

19. 2. By daily exercising, and wearying the Body more.

20. 3. By withdrawing by little and little something from Sleep.

21. 4. By calling into use, and Encreasing Cares, and serious Occupations of the Mind, which ought not to be too much vexing.

22. 5. When by these means the too great increase of Blood cannot yet be enough hindred, endeavour must be us'd, that moreover the Blood nevertheless more encreas'd, should be diminish'd in time by opening a Vein.

CHAP. XXXVII.

*Of the Nourishment of all the Parts deprav'd,
and in especial of Atrophia, or Pining.*

1. **T**He general Use of Blood carri'd to all and every of the Parts is their Nourishment, or repairing of the Particles by degrees departing from them and perishing; as also in Youth their Encreasing to a decent bulk and bigness.

2. This Nourishment, and Encreasing of all the Parts is deprav'd sometimes either *Universally* or *Particularly*, and that often according to the *Flesh of the Muscles*, and *Fatness*, seldom according to the *Substance of the Bowels*, and *Bones*.

3. This Depravation happens when 1. that Nourishment is *Deficient* in an *Atrophie*, or *Pining*: 2. when it is *too Much*, specially in *Fleshiness*, or *Fatness*. 3. When it is *Unequally* or *Evilly* in a *Cachexie*, *Anasarca*, *Leucophlegmatia*, *Rickets*, &c.

4. In this Chapter we will Treat of an *Atrophia*, or *Defect of Nourishment*, in the following, of the rest.

5. The Nourishment of the Body is wont to be *Deficient* manifestly, as is said, upon the account of *Fatness* and the *Musculous Flesh*; and not upon the account of *Gristles*, *Bones*, or the *Substance of Bowels*.

6. When *Fatness only* is consum'd, and is not equally repaired, it may be call'd *Leanness*; when the *Flesh is together* diminish'd, and is not restor'd, *Pining*. Neither is it a new thing to observe Men, whose
Fat

Fat only decays; but sometimes also, those whose Flesh perishes more, than their Fatness.

7. This double *Atrophia* is often *Universal*, through the *Universal Body*; but not so often *Particular* and in some determinate Parts only, especially in the Lims.

8. This *Atrophia* happens often by the Fault of *Blood*, seldom by the fault of the Part affected.

9. The *Atrophia* happens by the fault of *Blood*, when it is either deficient in the *Universal Body*, or some part; or is unfit to repair the Parts that grow lean.

10. *Blood* is Deficient in the *Universal Body*, both because of a voluntary, or forc'd Hunger; by any kind of notable Effusion of *Blood*; by the defect of convenient Food; by too much Motion of Body; by Watchings too long continu'd; by permanent Cares; by too much and too long beat of Air; and because of a Looseness prolong'd.

11. The *Blood* is usually Deficient in some Part because of its hindred Flowing unto or into It, and so the Cutting or Compression whatsoever of the Arteries tending to it, by the Unjointing of the Joints, hard Tumors, Bonds, &c.

12. The *Blood* is unfit to nourish and repair the Body Containing, and its Parts more, or fewer because of a vitious Quality, or Vitious, Salt, Viscous, Purulent, &c. Humors mixt with it.

13. The *Blood* oft retains a vitious quality after great Symptoms and Diseases gone before, Burning Fevers, the Dysenterie, &c. or as yet present, an Heëtic Fever either single, or Tifical, Wasting, and slowly or suddenly consuming the Body: Although I then think the vitious Humors are to be considerd, which produce the noted Fevers, and do moreover

vitiates the Blood, and make it *unfit* to nourish the Body, especially Matter infecting and corrupting the Blood in a Tific.

14. We have in several places, and still intend to propose in this Treatise the rising of Vicious, Salt, Viscous, Purulent, &c. Humors, whence they may be sought.

15. Pining happens by the fault of the Parts to be Nourish'd, when they suffer some harm by what Cause soever, and especially External, and Accidental, to wit by a Chance, Contusion, great Wound, &c. whence the Vessels carri'd through Them are not only burst, or cut, but the Flesh it self, and the Membrans, &c. are wasted and vitiated wherefore the Blood is not only deficient, but the Food also coming to them is corrupted.

16. The Cause of Pining which some seek or place in the Defect of the Radical Moisture, or Inbred Heat, or the Lurard Temperament chang'd into too hot and dry, I think is to be sought, and found in Choler, Lympha, and also Spittle, and the Juice of the Pancreas not feign'd and commented, and so Chimærical but actually existing, observ'd by many, and sensible Humors, but after divers manners chang'd and vitiated.

17. In an extreme Pining, beside the Hippocratical Face, consisting in the Temples fall'n, the hollowness of the Eyes, the Nostrils sharp, the Chops giving out, and the Mouth gaping, the Ribs in the Brest stand out, and the Gristle call'd *Ensiformis* is seen crooked; the Shoulder blade, and Collar bones appear like Bows; the spine of the Back shows it self; the Belly appears fall'n, and contracted; the Buttocks are lank, or consum'd; the Legs, Arms, Feet, and Hands with Fingers are beheld dry, and Swellings about the Joints seem

seem to stand out; *the Nails* are crookt; *the Hair* falls off; and *the Skin* becoms limber, wrinkled, swart, and dry; mean while *the Veins* swell out, being conspicuous and wan every where; and *the Universal Body* is observ'd in some almost transparent and pellucid.

18. All Physicians testifie, whom Experience favours, that a *Pining*, especially after it has continu'd for some time *is hard to Cure*, and oft-times *Incurable*; although the most think that it is not hard to cure in the beginning, so that it be known.

19. *Pining may be Cur'd*, 1. by *Repairing the Universal, or Particular Defect of Blood*; and by *using the best Food*, in a moderat quantity, and by *removing, or amending every Cause* of that Defect; of which we have spoken, or will, elsewhere.

20. 2. The same *Pining* may be Cur'd, by *Correcting* any kind of Fault in the *Blood*, and by *Removing* from it every *vitious Humor* mixt with it, by those that *Evacuate*, most convenient for every one, *Vomits*, *Purges* by Stool, and especially *Diuretics*, or *Sudorifics*, and moreover *Salivating Medicins*: of which we have spoken elsewhere, whence they may be selected, which are most profitable here.

21. *The Correction of Blood* alterd and vitiated several ways may be vari'd according to the variety of their faultiness, by using Medicins most fit for every Fault, unless you have at hand *Universal Correctors*, such as are made most efficacious of *Minerals* and *Metals*, and other things less determinat to the parts of Living Creatures, and therefore the best, and in special of *Antimony*, *Gold*, *Iron*, *Vitriol*, *Coral*, *Pearl*, &c. whence the *Tinctures*, and *Sulphurs*, &c. to be made of these above-said, are not undeservedly mentiond, and commended.

22. The

22. The same Pining may be Cur'd 3. by Repairing the harm of the Parts to be nourish'd com'd by a mischance, of which thing we intend to speak profess'dly in the Chirurgical part of Physic.

CHAP. XXXVIII.

Of an over-Fleshy and Fat Constitution of the Body.

1. **WE** said in the former Chapter, that *Nourishment* was too much notably, both in the *Fleshy Excrescency of the Muscles*, and in *Fatness*, whence the whole Body is observ'd greater; which is not equally, when the *Substance of the Bowels*, or *Glandul's* increase to too great a bulk, by reason of which there are Tumors only thought to be every where produc'd.

2. The Musculous Habit of the Body becomes more *Fleshy by much and laudable Blood*; the *Motion of Body*, and moderat Exercise concurring; the *Life* void of anxious *Cares*; a moderat or more prolonged *Sleep*; a large taking in of *Food* of much Juice, and easie to ferment.

3. The Body becomes *over-Fat* in Habit and Superficies, as within, by *Blood too Fat*, to produce which the *healthy Constitution of the Body* conduces, yet an *Acid Juice* concurring plenteous enough, but mild, and temperd; as *Choler over-sparing*, and not very sharp; the *Motion of the Body* little; *Life* also without corroding *Cares*; *Sleep* pleasant and too long; continual and much taking in of *fat Food*.

4. The

4. The Body is seldom loaden with much or too much Flesh, but commonly with Fat.

5. *Too great an Encrease of the Musculous Flesh,* may be Cur'd, 1. by speedily *Diminishing Blood* with opening a Vein. 2. By *Exercising the Body much and longer* then is wonted to a Weariness notable enough. 3. By Employing, and Vexing the *Mind* with grievous and solicitous *Cares*. 4. By *Encreasing Wakings*, and by lessening *Sleep*. 5. By Using more sparingly *Food* of much and the best Juice, or in their stead taking those that less nourish, or are more difficultly fermented.

6. The *same Fatness of Body* may be Cur'd, 1. By Using often and plenteously any *sharp Sauces*, both *Sour*, and *Aromatic*, that is, *salt*, or *bitter*; which as well make the *Glandulous Liquors* more *Acid*, as *Choler* more *bitter and sharp*. Such are Vinegar, Juice of Citrons, Spirit of Salt, &c. Pepper, Cloves, Cinnamon, Mace, Ginger, Cresses, Rocket, Mustard, any Radish, and chiefly Horse-Radish, &c. 2. By *Moving the Body* much. 3. By *vexing the Mind* with *Cares*. 4. By daily lessening *Sleep*. 5. Wholly abstaining from *Oily and Fat Food*; for so by little and little the superfluous Fat will not only be consum'd, but its new encreasing hindred.

CHAP. XXXIX.

Of a Cachexie, and in special, *Anasarca,*
and *Leucophlegmatia*.

1. **T**HE Nourishment of the Body peccant in quality may, and is wont to be call'd a Cachexie; in which the Native Skin and especially Colour of the Face languisheth, and is chang'd pale, and sometimes yellow or livid and very wan; as in some smart red, or somewhat redish, together with little Pimples rising up commonly in the Nose, and Cheeks of several sorts.

2. In the most kinds of a Cachexie a *Dyspnea* concurs, which is more encreas'd, when the Body is mov'd, especially over-much, and in ascending an high place. And then most usually a *Palpitation* of the Heart, and a *Pulsation* of the Arteries about the Throat, and Temples, manifest to Sight, is produc'd. Commonly there is a *Weariness* of the Universal Body, and Thighs especially. Often a *pressing* and *vexing* pain of the Heart urges, which uses to be encreas'd after Food taken in. Yea for the most part there is a *lingring* Fever, and that either *Continual*, or *Intermitting*, or *Compounded* of both. Urin comes away often *Crude*, or *Watry*, seldom *Thick* or *Troubled*, unless they be troubled or chang'd by another Disease accompanying, or an External Cause. At length the Universal Body *waxes* Lean, and *Pines* in some; as in others the same *Swells* and is *Turgid*. And an *Anasarca* comes by a *Serous* Humor; as a *Leucophlegmatia* by a *Phlegmatic*, and more *viscous* Humor; and

an *Ascites*, from both, at least the former, when the *Belly with the Thighs* only is troubled.

3. A *Cachexie* spares none, nor People of any Age; although most frequently it siezes on *Women* because of their *Monthly Courses Staying too long, and bindred*, or any way *Supprest*; it is also often enough wont to accompany the *Hypochondriac Disease*, and its notable kind, the *Scurvy*.

4. The *Cause* of every *Cachexie* is the *Blood endued with a vitious quality*, because of which although the parts of the Body be a little, and for some time nourisht, yet are they not nourisht, as is requir'd; but their nourishment is deprav'd several ways according to the variety of the quality peccant: whence also more kinds of a *Cachexie* are observ'd, to be distinguisht both according to the diversity of *Heat chang'd*, and especially of the *Symptoms* conjoin'd.

5. The *Quality* of *Blood* is faulty both by the *Natural Humors* concurring to the Constitution of the *Blood* in the *Heart*, but having a vitious quality; and by the *Non-Natural Things* so call'd, vitiating some of the nam'd *Humors*, and *Blood* it self, and so corrupting them, that an ill *Nourishment* of the Body follows.

6. The *Natural Humors*, that are wont to be confus'd with the *Blood*, and hitherto known, are *Choler*, and *Lympha* of the Conglobated Glandul's, and the other Parts of the Body, as also *Spittle*, and the *Juice of the Pancreas*, join'd together with *Choler* in the Small Gut, and compounding a singular *Liquor* to be mixt with *Lympha*, and so the *Animal Spirits* return'd any way to the *Blood*; all which I scarce think that any verst though but a little in the Art of *Physic*, and addicted to the Truth can deny to be affected with a vitious quality, and to communicate it self with the *Blood*.

7. We

7. We have noted ſeveral Depravations of theſe before, and ſhall yet relate more: whence they may be requir'd that make hither.

8. As ſeveral *Depravations of Humors* are ſometimes by *degrees* & inſenſibly produc'd in the Body, ſo the ſame are ſometimes bred *ſuddenly and ſenſibly* by the *Non-Natural Things*, or others to be noted with the name of *Poiſon* peccant in a notable exceſs, and very much troubling, or corrupting all things in the Body.

9. The Depravations moſt frequent and manifeſt are *Acrimony* both *Acid* and *Salt-like Pickle*, and ſometimes a *Lixivial Salt*, and *too much Viſcouſneſs*, or *Fluidity*: the *Causes* of which, and *manner of breeding* we have often propos'd, and explain'd before; whither we remit the Studious Reader, leſt being too oft ſpoken it be tedious to the Nice.

10. The *reaſon* of the mention'd *Symptoms* will eaſily be known to any that thinks oft, and weighs, that as oft as the *Blood* whence-ſoever hath been made *Vitious*, and producing a Cachexie; ſo often all the nam'd Humors, ſeeing they ariſe from the Blood, are alſo bred faulty; whence likewiſe not only both the *Appetite of Food* is deprav'd, but more-over their *Fermentation*; wherefore *Anxieties about the Midriff*, and a *preſſing Pain of the Heart* follow as well before as after its being taken in.

11. But when part, or the whole Maſs of Food ill Fermented is driven forward through the ſmall Gut, the *Juice of the Pancreas* and *Choler* which are confus'd with it being alike vitious, do not only corrupt the expected *Separation* of *uſeful and unuſeful* parts; but alſo here happens a vitious *Efferveſcency* of theſe Humors; yea often manifold *Vapors*, or *Wind* being raiſ'd out of that vitious Mixture do not only encrease the fore-deſcrib'd *Anxiety*, but carri'd to the
Heart

Heart do breed its *Palpitation*; and carri'd to the Lungs make a *Difficult Breathing*; and driven every way breed the noted *Weariness*.

12. From the same Vitioufness of all the Humors a *Continual*, and *Slow Fever* depends, in as much as they raise a vitious Effervescency in the Right Ventricle of the Heart, among many other Symptoms they likewise make the *Pulse* more Frequent then is wont, and so preternatural.

13. And seeing the Sick through unquietness often lay their Bodies bare that were coverd with Cloaths, it easily happens, that Phlegm being carri'd through the Vessels of the Pancreas is coagulated there, and breeds an Obstruction; by which the Juice standing still may be the Cause of a manifold *Intermitting Fever*, and it will be sooner, and easier, if the Body run down with Sweat, and the Pores of the Skin are open, or the Air be colder and sharper.

14. *Urin comes away Crude, and less Colour'd*, or *Thick* because of the *Humors* mentiond *over-sharp*, incorporating with the Blood, or *Watry* abounding, which diminish the desired Effervescency, so that the Separation, much less Excretion of the Excrementitious Parts, to be voided together with Urin, being requir'd and useful doth not follow. And as then all the *Parts* are ill *Nourisht*, so the *Skin of the Face* expos'd to the Air and Sight before all others, gives signs of its harm by *Heat* according to the variety of several Humors most peccant.

15. When the *Acrimony of the Humors* concurs, then is it manifested internally with *Pains*, or externally with *Pimples*.

17. When the vitious *Humors* abound together in *Plenty*, then several kinds of the *Dropsie* at length succede; if not, the *Universal Body* grows *Lean* by degrees.

18. The

18. The Cachexie which in special happens to Women because of their Monthly Courses flowing less commodiously or in due season, God willing, we intend to give the Reason, and Generation thereof in the Third Chapter of the Third Book.

19. From what has been said here and elsewhere, the production of every Hypochondriac, and Scorbutic Cachexie, may easily be deduc'd by a Judicious and Ingenious Physician.

20. And that we may pass on to the Cure of the Cachexie, know, that if any where, then for certain here this Golden Precept is to be observ'd accurately, propos'd in the following Distich;

*Principiis obsta, sero Medicina paratur,
Cum mala per longas invaluere moras.*

*Resist beginnings, late is Physic us'd,
When the Disease delaid is deep infus'd.*

For unless the Cachexie be helpt in time, it becomes oft by degrees so stubborn, and rebellious, that it can be cur'd only late, or never. Therefore are the Sick and their Parents, or Kindred, or Friends to be admonisht by their ordinary Physicians, though unaskt, so soon as the signs of a Cachexie beginning manifest themselves in the Colour of the Face chang'd, that that Evil, as it is in the Proverb, be not neglected in the Blade, seeing that it is soon wont to take deep root, and hard to be rooted out, which afterward cannot be overcome unless by an Herculean Labour.

21. The Cure of every Cachexie will consist in the Correction and Amendment of the Blood any way vitious. Where the kind of the Vitiousness and true Cause is to be observ'd whether it be one, or manifold.

22. As

22. As therefore this or that Humor is primarily and most peccant after this or that manner, and depending on this or that Error committed in the Non-natural Things hath vitiated the Blood, and produc'd a Cachexie, so are the *Medicins* to be selected, which may mildly, and by degrees alter, and reduce both the noted Humor, and the Blood it self to their *natural constitution*; or, if they cannot be clearly and wholly amended, yet do they empty out by degrees the same at least corrected after a certain manner; mean while not neglecting the *Non-natural Things*, or others producing, or cherishing these Evils; which unless they be corrected, or shoud the happy wisht for Cure, and laudable Success of what is to be done will be expected in vain.

23. You have often told you before by what *Medicins* and *Forms* the mentiond Corrections and Emptyings of several Humors may, and ought to be perfected; where they may be seen.

24. We must therefore persevere a while in the Use of convenient *Medicins*, and especially, when the Cachexie has continu'd for a space, and fixt its growth, which will depart slowly; yea, in the use of any Medicin profiting, so long as the Sick do's not only amend by it, but can Use it without loathing, and dislike: As soon therefore as it ceases to please, or benefit though the most grateful, or also best Medicin, prescribe an other, or the same to be given in another form.

25. In a long continued Cachexie the *Medicins* are always convenient that Correct, and Evacuate tough and glutinous Phlegm, seeing that all Prolongd Diseases depend on it either wholly, or at least in part.

26. If a Humor Sowr, or like Salt Pickle be coupled with Glutinous Phlegm, which commonly hap-

pens, or a Lixivial, or Choleric Salt which seldom happens, Medicins that satisfy both Indications are to be joind together, which are oft propos'd and mention'd; by the help whereof the gaining of Health lost may sometimes be expected sooner, other-times slower.

CHAP. XL.

Of the Reflux of Blood through the Veins, from all the Parts to the Right Ventricle of the Heart acprav'd; and in special of an Inflammation.

1. **A**S the Universal Blood is carri'd through the Arteries from the Heart to all and every Containing Part of the Body, both to Enliven, Nourish, and Encrease them, and also to separate all the Humors, or useful and unuseful things Contain'd any way from the remaining Mass; so the same Blood remaining after this manifold benefit many ways bestowed on both Bodies, yea many ways despoild of some part of it self and decaid is again carri'd from all the same Containing Parts through the Veins to the Heart there to be renew'd by the mutual Mixture, and after that the Effervescency, and Vital Rarefaction of several Parts concurring.

2. This Flowing of the Blood and reciprocal and altering Reflux, is now known and made known by the name of the Circular Motion.

3. The Blood is sometimes hindred in its Reflux, when it either Stands still, and stops in its Vessels and

and Ways, or is *effus'd* out of them, whether it be *within the Substance of the parts beside it, or Cavities of the Body, or it hap out of the Body.*

4. The Blood stands still in its Vessels, either because of a great *Plethora* and that call'd *at the Vessels*; or by a *straieness* one while by Their *Compression*, another time by their *Obstruction* made.

5. We sufficiently mentiond the *Plethora at the Vessels* in Chap. 36. which may be seen there.

6. The Veins are *Prest* to hinder the *Reflux* of Blood, sometimes by hard *Tumors* near, other-times by *Bands* about the parts, straitly binding the Veins, as well as Arteries.

7. The Veins sometimes are *obstructed* by the Blood it self, or *Phlegm* Coagulated and compacted in them, other-times though seldom, by a *Stone* bred in them, and by degrees more encreas'd.

8. I would have the *Hollow Substance* of every part referd to the Veins, through which I think with many that the Blood for the most part goes out of the Arteries into the Veins.

9. The Blood is Coagulated both by the great *Coldness of the Air or Water* very much affecting the parts; and by *Medicins* potently *Astringent*, or *Tart*, communicated to the Blood from without or within, and Congealing it.

10. *Phlegm* is Coagulated in the afore said Vessels by the same Causes, most frequently by the *Cold of the Air, Water, Drink, or other things suddenly invading the Parts* before warm, either Externally or Internally, and again there *curdling and thickning the Phlegm, specially Viscous*, by what Cause soever dissolv'd especially in the *small Gut*, and hence carri'd to the Blood, and together with it driven forward every way.

11. *Phlegm* in the small Gut is wont to be *Loosend*,
 12. By the hot *Air* of the Sun, Fire, Bath, &c. 2. By
Food, as also *Medicins* both Spiritous and Aromatic,
 or abounding with a Volatil Salt. 3. By a vehement
Motion of Body; whither Frictions, and Coverings
 may be referd. 4. By immoderat *Anger*. 5. By pro-
 longd *Watchings*.

12. Where note, how much the more causes do
 concur, and are peccant in a greater excess, so much
 the easier, sooner, and more plenteously the nam'd
Phlegm is loos'd and transferd toward the Blood.

13. The *Blood standing*, and by little and little
 collectd in its nam'd *Vessels*, distends them more, and
 more, and so, that sometimes they burst or any other
 way give it an *Out-let*; whence there then happens
 an *Effusion of Blood out of its Vessels*, whether it stick
 in the Substance of the adjacent Parts, or be collectd in
 a near Cavity of the Body, or be wholly pourd out of
 the Body.

14. The Blood Inclos'd as yet and standing in the
Capillarie Vessels, and perhaps in the middle finious
 substance of any of the Parts; or Effus'd and in a
 mean plenty at least gatherd without those its wonted
 ways, but open'd and patent into any kind of porous,
 and especially fleshy, or membranous substance of their
 parts, that are near, or their spaces between presently
 of its own accord makes hot and produces a trouble-
 som Sense of Heat in a sensible part; and being by de-
 grees corrupted, is wont to turn into *Purulent Matter*.
 Whence the first Change is call'd an *Inflammation*, as
 the latter, an *Abscess* or *Apothème*.

15. I judge the Blood is kindled and breeds an *In-*
flammation in as much as out of it being in Vessels ve-
 ry much distended, or standing in any other Parts
 the Spiritous, and more Volatil and Subtil parts, that
 are

are wont to temper both the *Acid*, and *Salt Parts*, do afterward begin to *vanish*; whence both being made *Sharper* do more *sharply* rise up one against another, and stir up an *Hot Effervescency* because of the *Oily Parts* of the *Blood* present, yea by degrees do so corrupt the *Blood*, as to turn it into *Matter*, different according to the variousness of the *Blood* corrupted.

16. *Blood Effus'd* into some *Cavity* naturally void of *Humors*, as of the *Breast*, or *Belly*, and there Collected and Corrupted into *Matter* constitutes a *Suppuration*.

17. The same *Blood Effus'd* into the *hollow Parts* of the *Body*, the *Stomach*, *Guts*, or *Urinary Bladder*, makes a *various change*, because of the several *Humors* then mixt with it, unless it be soon sent out of them.

18. The *Effusion* of the same *Blood* out of the *Body*, is call'd in general an *Hæmorrhagie*; although in particular this name is given to *Blood* bursting out at the *Nostrils*; as the same when it flows out of the *Vessels* of the *Fundament* is call'd *Hæmorrhoids*: and *Blood* distilling every *Month* out of *Womens Wombs*, is known by the name of *Monthly Courses*; and that which uses to be evacuated plentifully after *Birth* that way, the *Lochia*.

19. Where it is to be noted, that there is *no natural Efflux* of *Blood* beside both newly mention'd proper to *Women*, of which variously deprav'd we intend to speak at large, if *God* permit, in the *Third Book* of this *Work*. For every other *Hæmorrhagie*, whether coming of its own accord, or by chance, or if it be procur'd by *Art*; or whether it be hurtful, or useful, always happens beside the ordinary course of *Nature*, seeing that none such is to be expected of perfectly healthy *People*.

20. Therefore the Cause of every Efflux of Blood is any kind of Opening of the Vessels, whether it be by too much Distension of the Vessels by plenteous, much rais'd, or retarded Blood, or Wind; or by the corroding Pain of an Humor stopping either in, or out of the Vessels, or by an hard and sharp thing wounding; or by a blunt thing bruising or if the same happen any other way.

21. We intend to speak elsewhere of the most Causes, and the Cure of Blood Effus'd beside nature out of its Vessels, in this Chapter we will prosecute the Essence, and Cure of an Inflammation.

22. It is requir'd to the Cure of an Inflammation and Aposteme following, that .1. The Compression, or Obstruction of the Vessels be taken away. 2. That the Motion of Blood Stopt, and standing still be restor'd. 3. That the Blood effus'd out of its Vessels, if it can be, be remov'd thence before it turn to Matter. 4. That if the Suppuration cannot be remov'd, and so hindred, it should be ripend, and promoted. 5. That the letting out of Matter bred be hasten'd. 6. That the cleansing and consolidation of the Ulcer be most speedily absolv'd.

23. I. The Compression of the Vessels by Bonds straitly cast about the parts may be taken away, when they are taken away; or by an hard Tumor, when it is cur'd; of which, elsewhere.

24. An Obstruction of the Vessels by Viscous Phlegm, or Blood Coagulated in them may be Cur'd, by using Medicines that as well internally, as externally loosen the Humor peccant, and again make it fluid.

25. Among Internals, Volatil Salts prepar'd of several parts of Living Creatures conduce before all others, as having an egregious power of dissolving all things Coagulated and Conglutinated in mans body,

dy, and of reducing the same to their wonted fluidity, and moreover to move sweat; which together being mildly promoted that desired and amiable Dissolution of those Gathered together is obtain'd much easier, sooner, and more happily.

26. Hence it is, that often by one Sweat prepar'd of these mentioned Volatil Salts, or such-like, given in season a Pleurisy, that is an inflammation of the Side has been most happily cur'd without opening a Vein, and letting Blood.

27. Hence it is, that Mixtures prepar'd of such-like, and us'd by spoonfuls by short intervals in time, have cur'd both a Pleurisie, and Peripneumonie, and Inflammations of other parts soon, safely and pleasantly.

28. I here set down an example of such a Sudorific Mixture for Younger Physicians sake, which

Rx. Parsley, Hyssop, Fennel-water, of each ʒi. Simple Treacle-water ʒ ss. Sp. of Salt Armoniac ʒ ss. Laudanum Gr. iv. Syr. of white Poppies ʒi. M.

29. Instead of Sp. of Salt Armoniac you may add Volatil Salt of Harts-Horn, or any other, and according to its greater, or less Acrimonie add more, or less of it to the Mixture, which may be taken in a greater, or less quantity at every time, and the body be kept in a warm place, especially in bed, to promote the power of the Medicin every way, and after that to facilitate a Sweat; although there is scarce need to raise a sweat continually; seeing it profits not, unless in asmuch as the volatil and Salt force of the Medicin pierces easier, and sooner to the place affected and Obstructed.

30. Crabs Eyes, the Jaws of a Pike, the Bone of the Heart of an Hart, &c. may and ought to be re-

ferred to a Volatil Salt seeing they abound with it.

31. In this case likewise All fixt *Metallic and Mineral Sulphurs* conduce; wherefore *Diaphoretic Antimonie* is hither referred being brought to some fixtnes; although these are here convenient for many causes.

32. Nor do the *Volatil Salts of Living Creatures* alone conduce here, but all made of several parts of *Scorbutic Plants* so call'd being sharp, emulating their strength, such as are the Juices of *Hedge-Mustard*, *Scurvie-grass*, *Garden and Water Cresses*, *Dandelion*, &c. *Treacle-Waters*, &c. So that they have power to loosen and dissolv *Phlegm Coagulated* or *Blood Clotterd*.

33. Among the *Externals* the compound *Oyntment Martiatum*, and of *Marsh-Mallows* are convenient, &c. the *Oil* of white *Lilies*, *Camomile*, *Dill*, *Bay*, *Bricks*, (commonly call'd) *Philosophers*, &c. which may commodiously be mixt together, and be anointed on the external affected parts; using before or adding often the rectifi'd *Spirit of Wine*, aswel simple, as compound, and several ways aromatiz'd,

34. In this Case also *Cataplasms*, more *Dissolving*, than *Mollifying*, or *Ripening* may be outwardly apply'd; which may Cut, and Loosen the *Humor*, *Blood*, or *Phlegm Coagulated* being prepar'd of the parts of *Sharp and Aromatic Plants*. For example take this following.

Rx. *Onions* roasted under the *Ashes*, or in an earthen Vessel, and beaten ζ ii, the *Leaves of Hedge-Mustard*, *Chervil*, *Garden-Cresses*, *Elder*, of each M. S. *Meal of Beans*, *Lupins*, of each ζ i. One *Swallows Nest*, *Album Graenum* ζ i. Make it a *Decoction* in *Butter-Milk* to the Consistencie of a *Cataplasme*.

Apply this *Cataplasme* meanly warm to the affected part

part Externally; by the help whereof internal Obstructions also may be loosned: and Observ, as soon as it begins to be dri'd, it must be renewd.

35. II. *Motion is restord to Blood Standing still* and stop't in its Vessels for the most part and most happily by *Sudorifics*, sometimes by *opening a Vein*, and *Letting Blood*.

36. By *Sudorifics*; in as much as by their help the *Blood* becomes not only *more fluid*, and *moveable*, but moreover is *mov'd actually* being more, and more raref'd by the *Volatil Salt* that is in them, and again *loosens*, puls asunder, and therefore *mov's* the *Blood* by degrees more or less *clottering*, only by its stoppage because of its *Acid Spirit*.

37. Hence it is, that the Pulse so continually *more Frequent*, as often together *Greater* and *Stronger* is wont to *accompany Sweat*; unless an extreme dejection of Strength concur: for then both a *Less*, and *more Languishing* Pulse is joynd to one more Frequent.

38. For when the *Volatil Salt* of the *Sudorifics* comes to the right Ventricle of the Heart, there the Blood rarefies more, and more potently, and does not only seek an out-let for it self of its own accord, but provokes and forces the Ventricle of the Heart by dilating it more both to a more Frequent, and more Valid Contraction of it self, and so to the expelling and driving the Blood forward; and therefore raises, moves, and every way puts forward from the Heart the Blood first by degrees deficient in its Motion.

39. When that mentioned Power of *Sudorifics* comes to the place of Obstruction, it attempts the Matter obstructing be it what it will, and cuts, attenuates, loosens, and makes it fluid; whence it is farther

farther driven forward together with it more easily, and happily, the assault of the Blood coming more potently mov'd and forc'd to it.

40. *By opening a Vein, and letting Blood, its Motion is restor'd to the Blood standing still*, in as much as that which was next is carri'd into the place of that which is let out, and a larger space being so made for the Universal Blood all the Blood mov's both more swiftly, and potently; wherefore it, which first stopt standing still in its Vessels, the Plethora being now taken away it stops no longer, but is more potently stir'd up, and helpt to renew its interrupted, at least much diminish'd motion; unless a more grievous Obstruction hinder this, that will not yeeld to Blood alone too vehemently mov'd, but moreover wanting those things that cut and dissolv the Humor obstructing.

41. And then after a sufficient quantity of Blood is taken away, it is profitable to give a Sudorific, and Cutting Mixture at several times by Spoonfuls, such an one as we noted in *Seti. 28.* whether little or no Sweat follow at its taking, if that the rebellious Obstruction be loosend, and taken away.

42. *III. The Blood Effus'd out of its Vessels, and disperst through the Substance of the more near parts,* is to be remov'd thence, wholly or in part as soon as may be, if it can be remov'd at all, by *bindring* its coagulation, potently dissolving its over-thick parts, discussing those that are more tender, and together tempering those too sharp; and that as well by Internal as External Medicins.

43. *The Coagulation of Blood* is hindred by Crabs-Eys, Diaphoretic Antimony, Mumy, Sperma Ceti, Gum Galbanum, Sagapen &c. Opium, Spruce Beer, &c. besides the most of these nam'd do *dissolv the over-thick parts* of

of Blood, and discufs those too thin, and moreover temper those too sharp, especially when they are joind with others, which promote or encrease their force. For Example ;

R. Hyssop, Fenel-Water, of each \mathfrak{z} ii. distilld Vinegar, \mathfrak{z} vi. Sp. of Wine rectifi'd, or any Aromatiz'd \mathfrak{z} lb. Crabs-Eyes \mathfrak{z} i. Sperma Ceti, Mummie of Alexandria, of each \mathfrak{z} i. Laudanum iv Gr. Syr. of the Five Roots \mathfrak{z} i. lb. M.

Let the Sick often take a Spoonful of this Mixture; by the help wherof the Clottering of Blood Effus'd will not only be hindred; but its over-Thick parts incided, and by degrees attenuated; and its over-Thin parts will continually be Discuss'd together with Sweat or insensible Transpiration; and the Pain will be awag'd its over-sharp parts being temperd, and at length wholly taken away; and so the Obstruction it self will be loosned and dissolv'd: and by such-like alone us'd in time, and diligently Pleurifies, and Peripneumonies, and Inflammations of other Parts beginning, grievous enough, and troublesome with Anxieties, or sharp Pains have oft been Cur'd.

44. You may anoint upon the part affected, the Ointment Martiatum, that of Marsh-Mallows compounded, or any other Aromatic; to which you may refer May-Butter prepar'd with the Juice of Aromatic Plants; sometimes adding Aromatic Oils in like manner, that of Bays, Dill, or others more potent, or distild, of Earth, Turpentine, Amber, Bricks, &c. but in less quantity.

45. Among Plasters that of Sperma Ceti is deservedly commended, which

R. Virgin-Wax \mathfrak{z} iv. Sperma Ceti \mathfrak{z} ii. Gum Galbanum, dissolv'd in Vinegar \mathfrak{z} i. M. Make it a Plaster according to Art, through which melted
draw

draw a Cloth, and let it be a Serecloth commonly call'd, to be appli'd by course on both sides.

This Egregious Plaster does not only preserv the Blood in all the External Parts of the Body, but Milk also from curding in the Paps, yea sometimes it again loosens and discusses, or restores it meanly curded.

46. *Fomentations* also made of Aromatic Plants and potent Discussers boild in Water, or Wine may conduce; adding moreover when they are us'd some of the Spirit of Wine. For Example;

R. *The Roots of Briony, Smallage, Fearn, of each*
 $\frac{3}{4}$ ii. *the Leavs of Elder, Hemp-like Agrimony,*
Germander, Mint, Wormwood, of each Man. i.
the Flowers of Melilot, Roman Camomile, of each
 Man. i. $\frac{1}{2}$. *Cumin-Seeds, Bay-berries, of each*
 $\frac{3}{4}$ i.

All being grossly beaten Boil them in Rain-Water, on a slow Fire, the Vessel being shut. Keep them for your Use.

47. This Fomentation may be us'd, by sowing the beaten parts of the Plants in a Bag, or Bags, and after they are boild by expressing the superfluous Liquor, and applying Bags meanly warm to the part affected; where they must be left so long, as they are hot; and as soon as they want heat, they are to be remov'd, and others warm to be appli'd. Also a Woolen Cloth, or soft Sponge fit to cover the part affected may be laid on the warm Fomentation, and after be appli'd to the part paind the superfluous Liquor being exprest, as is afore-said, sometimes be renewd. Yea so much of the Fomentation as is need-ed, may be pourd into a Beasts Bladder cut off from its Neck and softned in warm Water, that is, after the

the part that wants its Neck is ti'd again, the Bladder turgid, but not full and stretcht with the Fomentation may be appli'd loosely on any part: for so all harm easily happening from moist and soon after cold Shirts, or other Linen Cloths near the Body is prevented.

48. By the help therfore of these several Medicins, the Indications mentiond will be satisfi'd; nor will they only be shund, or the Coagulation of Blood be repaired; but moreover its over-thick, or thickned parts will be attenuated; and those more thin will be discust and carri'd out by insensible Transpiration; yea those too sharp will be temperd, if any such cannot be soon after together disperst, whereby at length they by degrees vanish away, at least they may be easier, and more happily suppurated.

49. IV. When the Blood is effus'd into such, or so deep a place, out of which it cannot be commodiously remov'd without Suppuration and an Aposteme; *the making and generation of Matter* is to be promoted, and hastned.

50. *All Emollient and Ripening Medicins* do this, the *Roots* and *Leavs* of Marsh-Malows, Malows, White Lillies, Brank Urline, Orage, Mercury, &c. *the Seeds* of Lint, Fenugreek, Marsh-Malows, &c. or their *Meals*, as also that of Barley, fat Figs. Mans, Swines-Grease, &c. *the Fat* of a Goose, Hen, Calf, &c. *the Marrow* of all Bones, any Butter, Oil of Olives, Sweet Almonds, and almost any that is exprest of several Seeds, or Kernels, or boild with Emollient Flowers, &c.

51. When *Pblegmatic and Viscous Humors* are joind with the Blood, the Knobs or Onions, Squils, &c. are to be added to the former, and sometimes Gum Bdellium, Galbanum, Ammoniac, &c. Liquid Stry-
rax,

rax, Wax, Turpentine, Hony, and many such-like.

52. *Cataplasms* are wont to be most commodiously prepar'd of these; For Example,

Rx. The Meal of Marsh-mallow Root, of Barley, of each $\frac{3}{4}$ ii. the Leavs of Malows, Brank Urfine, of each Man. iii. the Seeds, or Meal of Lint $\frac{3}{4}$ i. $\frac{1}{2}$. fat Figs bruisd x.

Boil them in Water or Small Beer on a slow Fire, or when there is an extreme Heat, in Butter-Milk to the consumption of their Moisture, and softning of those things boild; then all being exactly beaten, add Swines Grease, new Butter, of each $\frac{3}{4}$ i. $\frac{1}{2}$. M. for a Cataplasim.

53. When Glutinous Phlegm is mixt with the Blood, and breeds a lighter Heat in the part, then prepare this following.

Rx. Onions roasted in Embers, and then beaten $\frac{3}{4}$ iv. the Meal of Beans, Fenugreek-Seeds, of each $\frac{3}{4}$ iii. Flowers of Roman-Camomile, of Elder, of each M. i. $\frac{1}{2}$. Boil them according to Art in Small Beer, or pure Water, to be a Cataplasim.

54. When there is much heat in the part Inflam'd, and the Sick cannot bear Fat things, beware diligently of all Oils, and Oily things; and then I have always observd that Butter-Milk, which is, the Whey of the Creme of Milk butterd is useful; in which if a Decoction be made, the Cataplasim by help of this will egregiously temper Heat, and hinder, *St. Antonies Fire* from being easily joind with the Inflammation.

55. If Ointments, or Plasters please the Sick better, and they be not hurt by Fat things, the Part paind may once or ofter be anointed with the Ointments of *Agrippa*, Simple, or Compounded Marsh-Malows, the Pectoral, &c. Ointment, and either alone, or with

with convenient *Oils* added, of White Lilies, Sweet Almonds, and such-like reduc'd to the consistency of a Liniment; and afterward the *Plaster of Diachylon Simple*, and sometimes with Gum be laid on it, as also that of the Mucilages, chiefly when the Body and Blood abound with much Phlegm, and that Viscous.

56. Y. The Generation of *Matter* being promoted and finish'd by these or such-like Medicines; *Its Out-let is not to be delay'd*, seeing while it is present the Pain persists, and being let out is diminish'd; and the Matter becomes sharper by delay, and therefore more hurtful, and the Parts near it are more and more corrupted by it, and so the Ulcer is made greater, and so more difficult to cure; chiefly when the Vessels near it are corroded by that Matter being too sharp, and sour naturally.

57. For the *Aposteme* that is deep is seldom open'd of its own accord, and not without a long time: wherefore, when Matter begins to appear ripe by the Softness of the part affected manifest to touching, as also Redness and Pain diminish'd, as oft as may be, the Out-let is to be prepar'd for Matter either by a sharp *Knife*, or a potential *Cautery*, in the softest and lowest place of the Tumor.

58. If the Sick admit of neither, or be delicate, or morose, endeavour to draw the Matter toward the Superficies of the Body, whereby the Skin fretted may be sooner perforated by It; for which use the following Plaster often approv'd by me may serve, which

Rx. The best Honey, Rit-Meal, of each ʒ i. one Yolk of an Egg.

Set them on a mild Fire, and stir them to the consistency of a Plaster: Spread it on a thick Linnen Cloth, and apply it to the part affected, daily to be renew'd.

59. *Figs*

59. *Figs* also may be beaten and appli'd warm like a Cataplain to the softest and most swelling place of the Tumor, wherby the opening of the Aposteme may be facilitated and promoted.

60. When there is much Matter containd in the Aposteme, diligently beware, that all be not let out at once, but by little and little; because otherwise the strength of the Sick is not a little prostrated. But when there is only a little Matter, nothing hinders that all may be let out, which is fit, and ready to run out; not pressing it hard, nor long, which is familiar with many Chirurgeons, by which I never observd that the Sick get any good, but often much hurt. When Matter sticks in a place remote from opening, or is only carri'd in a crooked passage to the place of opening, then may it, yea ought it to be forc'd out by a mild pressure of the parts.

61. VI. A way being made and open'd for Matter we must now forthwith procede to *Cleanse* and *Consolidate the Ulcer*; to which end several Medicines are wont to be given, all which I neither blame, nor carp at. I have often considerd with admiration the laudable effect of *Balsam of Sulphur* with Oil of Turpentine, Anise, &c. in this case, incredible to many, if a little of it be dropt in, or anointed on the Ulcer. For shortly after the generation of new Phlegm is so diminish'd, that oft by the help of this one Balsam I have in a few days perfectly cur'd notable Apostem's after Inflammations bred both in the Breasts, and elsewhere.

62. By this Experiment not a little to be esteem'd, I judg the Cleansing and Consolidation of Ulcers following Apostem's to consist in *the Correction of Acid, and Corroding Matter*, cleaving to the Ulcerated Part, and corrupting the Blood at least in part that is
apt

apt to nourish it, and turning it into *new matter*: and this *Matter* adhering to the part affected is *Corrected* by the mentiond *Balsam of Sulphur*, chiefly by its *Aromatic Oil*, and so abounding with a *Volatil Oily Salt*; by which the *Acid Spirit* abounding with *Matter*, and daily corrupting the *Blood* into *Matter* is not only duld, but moreover mitigated, and so amended, that the *Blood* flowing to it soon repairs the parts before consum'd, and finishes the last *Consolidation*.

63. What farther may be deduc'd from this Experiment to perfect *Physic* also in other things, let both *Ingenious* and *Judicious Physicians* and *Chirurgeons* weigh and judg. I had willingly added more, unless my great and toilsom *Business* had deni'd me necessary leisure to finish this, and other things.

CHAP. XLI.

Of the Generation and Separation of the Animal Spirits in the Brain, and Cerebellum, or Hinder Brain Deprav'd.

1. **T**HE *Blood* affords *Matter* not only to nourish and restore the *Consistent* and *Containing Parts* of the *Body*, but to *prepare* and *repair* the *Fluid* also and *Containd Parts* every-where.

2. For a *Volatil*, anon to be call'd an *Animal Spirit*, is *Separated* from the rest of the *Mass* of *Blood* in the *Brain*, and *Cerebellum*, as we taught in our IV *Physical Dispute Sect.* 28, &c. which although it be not perhaps seen and discerned with the *Eyes* of

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the Body, yet is it demonstrated to the Mind by solid Reasoning, and that manifold.

3. This *Separation of the Animal Spirits*, commonly call'd *Generation* of them is deprav'd 1. when there is *None*, or at least *too Little*. 2. When perhaps it is *too Much*, or *too Plenteous*. 3. When the *Spirits* come *ill Affected*.

4. 1. If at any time *No Animal Spirits* be separated, it seems not likely to me that a *Man* can live long, but I think he will soon die being destitute of Motion, especially of the *Heart*, and *Breast*, and *Midrif*.

5. It is manifest enough that the *Animal Spirits* are often separated *too Few* from the *Blood*, and that sometimes by the *Fault of the Blood*, other-times of the *Brain or Cerebellum*.

6. This is by the fault of *the Blood*, 1. if it contains little of a *Volatil Spirit* in it self, because of such-like Food us'd too long, either of its own accord, or by chance, or by force.

7. 2. If it adhere more inwardly to the Mass of *Blood*, by want of the *Fermentation of Food* in the *Stomach*, or any other thing together taken that more intirely unites the *Spirits* with the *Blood*, such as I judg every sharp and tart thing is; whither also 3. among evident Causes, great and especially permanent *Sorrow* and *Fear of Mind*. 4. *Sluggishness*, and *Slothfulness*, and rest of *Body*. 5. A loose *Mind*, and not busied with any thing; 6. *An over-long and deep Sleep*, &c. seem to contribute.

8. If we could attain, and conceiv clearly, and distinctly how, and by what means the *Brain and Cerebellum* are affected rightly to finish the *Separation* of the *Animal Spirits*, perhaps we could with less
diffi-

difficulty determin, what aild it, when this Separation is deprav'd and lessned by the fault of it.

9. Certainly he that granted that *the utmost Substance of the Brain, and Cerebellum was requir'd to be open and open enough*, whereby the most spirituous part of Blood might pierce, and be as it were strain'd through it; as I judge will grant that the same being more compact then is wonted is unfit for the mentioned percolation.

10. The Coldness of Air, Water, or Snow vehemently affecting the head seems to confirm yea to prove this Cause; from which not only a Stuffing in the Head, but also a more sparing production of the Animal Spirits uses to follow. And as we observ the Glandules of the Brain are affected and thickned in a Stuffing of the Head by Coldness not always very great; so I think the Brain and Cerebellum are ill affected when the Separation of the Animal Spirits is diminisht by very great Cold compacting its soft substance, and thickning and straitning it in its porous passages.

11. And although I deny not that the Blood also tending to the Brain may be ill affected by an external great Cold, yea that it is somtimes clotted then in its Vessels; yet in such a Clottering of Blood there will not only follow a diminisht Separation of the Animal Spirits; but most of all the motion of the Blood hindred, and after that an Inflammation and whatsoever very grievous thing uses to accompany such an Inflammation in the Head; which yet is not always observd when the Separation of the Animal Spirits is hindred by cold: whence it appears that the Head, and Brain, or Blood found in the Head is not always affected after the same manner by cold.

12. And as *External Cold* (that is, that which produces cold in us, and is found in the Air, Water and Snow) hinders the Separation of the Animal Spirits; so *Internal Cold* (that is, whatsoever being in us breeds the Sense of Cold there, to wit in the beginning of Intermitting Fevers) seems *in like manner to hinder the Separation of the Animal Spirits*, whence they that are taken with vehement feverish cold are for the most part unfit to perform the Animal Motion, yea or any of the Animal Functions, which I judg is by vapors carrid together with the Blood to the Head breeding cold, and partly making the Blood unfit by its Tartnes to yield its Spiritous parts, partly compacting the external substance of the Brain, or straitning its hollow pores, and so at least in part denying passage to the most Spiritous part of Blood.

13. II. *The Animal Spirits seem to be Separated more Plenteously from the Blood in Men vehemently, mov'd in Body, and Mind especially with Joy and Anger.*

14. *The Cause of this Separation of the Animal Spirits increas'd is to be sought, and found somtimes in the Blood it self, othertimes in the hollow Pores of the Brain and Cerebellum.*

15. When the same *abounds in the Blood without Spiritous parts*, especially incident to strong Drink turgid with a volatil spirit being too liberally us'd; and by *serene and meanly hot Air* it is made more fit for the separation of the spiritous parts; especially when an *over-swift motion of Body, or grievous Passion of Mind* happens driving all things in the Body out too vehemently; such as are *Joy and Anger* before others exceeding mediocritie.

16. By which the Blood is made not only most fit
for

for a plenteous separation of the Spiritous part, but the *porous Hollowneß* or *sinuous Pores* become more open, and therefore more convenient the easier to transmit a larger plenty of the Animal Spirits.

17. III. The Animal Spirits are to be thought ill Affected or Deprav'd, when 1. they are too much Stupid, or Stirr'd, or also wrong Mov'd; when 2. they are Impure and Defil'd by any thing mixt with them beside nature.

18. The Sleepiness, or too much Agitation or Inordinat Motion of the Animal Spirits is most easily observ'd when the Animal Motion is together deprav'd; as their Impurity and Defilement when the Internal, aswel as External Senses are thence deprav'd.

19. The Animal Spirits are Sleepy and unfit for Motion by a Narcotic Force mixt with them, or by degrees bred in the Body, or entred in from without sometimes by the Air inspir'd defil'd with the smoak of Coles, othertimes by Medicinal Food, especially spiritous wine making drunk, or Medicins themselves, to wit Opium, and all Opiats wrong, that is, immoderaty taken or apply'd in any respect.

20. The Animal Spirits are too much Agitated, and mov'd, both by the very hot Air, and Food very Spiritous us'd too plenteously, but not in the greatest excess, and by a continu'd Weariness of Body, Watchings too long Protracted, a persevering solicitude of Mind, and over-vehement Anger.

21. The Animal Spirits are Wrong Mov'd in Giddy people, when oft Objects themselves, oft the Place, in which the Sick stands, sits, or lies, oft the Sick himself, oft all these together are believd to turn round and to go in a circuit about. Hither also is the Disease to be refer'd, wherein the Sick not only Infants :

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but also People of Years think that they are either actually *tumbling down headlong and fall*, or at least *are in danger of falling and tumbling headlong*, and ask, that they may be taken hold on and kept against the feard tumbling headlong, and fall.

22. The Cause of the *Giddy-Motion* is sometimes *External* to wit an attent looking at any Object turn'd round, or also an attent looking at things very remote, or high, or deep: othertimes *Internal* a dayly Turning about of the Body it self; all which Causes are *manifest*: beside which sometimes several are more *bidden*, as the ascent of Vapors, and Wind to the Head, by which joynd to the Spiritous part of Blood, and carri'd together with the Animal Spirits into the Passages of the Brain, and Cerebellum the Motion of wheeling about (by which they are mov'd) is communicated to the Animal Spirits, and so a Giddiness seems to be produc'd.

23. Sometimes also the Animal Spirits are troubled the *Mind* being vehemently troubled, and *smitten* especially with a *panic and vane terror*, and being too much agitated they make the Body stagger, and breed that fear of a Fall, of which anon not yielding to any reason, or reasoning.

24. The Animal Spirits become *Impure*, both by *Air* impure, cloudy, and defil'd by several exhalations of Plants ill smell'd of themselves, or by burning, of mans and brutes Carcases, of Minerals kindled, or otherwise stirr'd by force of fire, and more or less partaking of the nature of sulphur; and by hurtful and corrupt *Food*, in the time of dearth, sieges, far voyages &c. and also by the *Mind* together, and potently stirr'd up by several and often contrary Passions, whence divers vapors are necessarily rais'd in the Belly by several Humors ill affected, and anon carri'd thence to the

the Heart, and thence to the Brain to infect the Animal Spirits.

25. I. An *over-little Separation* of the Animal Spirits may be Cur'd, 1. by using Food *abounding with much, and loosend Volatil Spirit*, Strong Wine rightly fermented, and sometimes Spirit of Wine rectifi'd, either single, or aromatic.

26. II. By *Promoting, or Restoring the deficient Fermentation of Food* in the Stomach, by Medicins propos'd in Chap. 7. Sect. 26. and 33. among which the newly mentioned *Spirit of Wine* is nam'd as also any *Volatil Salt* taking a few drops with a little Wine, or any other ordinary drink once or twice at dinner, and supper: seeing that it also corrects all *hartnes* of what is taken in, or otherwise corrupted in the body.

27. III, By *Freeing the Mind from Sorrow and Fear*, and that by reasons whence soever taken, that will stirrup, and recreate the mind afflicted.

28. IV. By *Driving away Sloathfulness, and moderately exercising the body.*

29. V. By *busying the Mind in serious matters, but also grateful.*

30. VI. By *diminishing Sleep* by little and little daily.

31. When the head is ill affected by the *external Cold of Air, Water, or Snow*, or a *Stoppage of the Head* be also bred, or the *Defect of the Animal Spirits* chiefly urge, then I have observ'd the Sick to be happily and soon cur'd, if whatsoever has pierc'd into the Head or any other parts of the body bringing harm to them be driven out again as soon as can be, and that by Sudorifics both spiritous and volatil taken at once, or, (which I like better) often and at times; as being such that not only alter, and correct the

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Cause of Cold, and other evils accompanying it, but do also amend the harm *entred* into the Body *Containing*, and *Containd*.

32. To this end I commend this following Form.

R. Fumitorie, Fennel-Water, of each ʒ ii. Simple Treacle-Water, or any other Aromatic ʒ i. Sp. of Salt Armoniac xx. drops. Oil of Cloves iii. drops. Mineral Bezoard ʒß. Laudanum ii. granes. Syr. of red Poppies ʒ i. M.

Let the Sick take two spoonfuls of this Medicin, and expect a Sweat being meanly coverd; which he may facilitate, and get what he desires, if he always take a little of it in half an hours space, till the sweat break forth: for then he may use it more seldom and sparingly; using moreover a little of pure broth, or mixt with a little wine, whereby his Strength may be recreated, and made fitter to bear a Sweat longer. For nothing so much helps the Sick, as a Sweat continued mildly a while; which Experience hath oft taught me.

33. When the natural, and sufficient Separation of the Animal Spirits is hindred by an Internal or Feverish Cold, or any other without a feverish fit often seizing on Men, then the desired Separation of the Animal Spirits so useful, and necessary to mans felicity is restored sooner, or more slowly by such a Sudorific, as is newly mentiond rightly us'd, the Sweat coming forth one while sooner, another while latter.

34. For by the help of this Spiritous, and volatil, and also Aromatic medicin, or one like it the Vapors and Wind that produce the hurt and troublesome Cold in man, and Stupidness of all the Senses, and Dulness of Motion are discuss'd.

35. They who let Blood while such an external, or internal Cold urges, or think they can carry out the

the cause of the evil either by vomit, or siege, put the Sick into danger of life, or at least of more grievous evils, as I have seen done oft by Men more vers'd in reading Books, then in observing the Symptoms befalling the Sick, and therefore often hurting themselves as well as others. So much can the Mind anticipated do by false prejudices, and therefore unfit to weigh, and discern things equally.

36. II. An over-Plenteous Separation and Breeding of the Animal Spirits, may be Diminish'd 1. by Laying aside very Spirituous Drink, and in its stead substituting more Watry.

37. 2. By enjoying by degrees more cold Air, such as the mountain, or marine, especially Northern, and Subterraneal.

38. 3. By less stirring and exercising the Body, and so giving it to quiet and sleep.

39. 4. By freeing the Mind from all vehement commotion of Joy especially or Anger, and keeping it appeas'd, quiet and almost idle.

40. And because all sudden change is wont to be together dangerous, there ought to be careful endeavour, that the noted changes by degrees may happen in the noted non-natural things.

41. And as the more open Cavities of the Brain, and Cerebellum destin'd and ordain'd to strain through the Animal Spirits do follow the mention'd errors of Diet, we need not doubt, but likewise a Diet somewhat contrary to the former may bring again, and reduce them to a natural, and laudable straitness.

42. III. The Animal Spirits Drowsy and unfit for Motion may be stirr'd up, and freed from the narcotic force mingled with them by Volatil Salts, but such as are very sharp, and all medicins endued with an aromatic biting, Pepper, Cloves, Castor, Garlic, Horseradish,

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Radish, Mustard, Scurvie-grass, Hedge-Mustard and such-like often us'd in a small quantity, for example.

Rx. Scurvie-grass, Hedge-Mustard Water, of each ʒ i. Tincture of Castor ʒ i. Oil of Cloves 2. drops. Syr. of Scurvie-grass ʒ vi. M.

Let the Sick often take a spoonful of this mixture.

43. If any pretending Physician disdain the name of a Mixture, prepare a Decoction after this following form,

Rx. Galangal-Root ʒ ii. Horse-Radish Root ʒ ii. the leaves of Hedge-mustard, M ii. Cloves ʒ ss. Boil them in Water and White Wine of each alike the vessel being shut, in ʒ xx of what is straind, dissolve Syr. of Scurvie-Grass ʒ iii, Tincture of Cinnamon ʒ i. M. for a Decoction.

Let the Sick lying in bed, meanly coverd use often in a day 5. or six Spoonfuls of this Decoction, wherby if possible, a light Sweat may break forth, to ease the Sick.

44. By the help of these medicines the Animal Spirits will not only be freed from their Drowsiness, but even the narcotic force bred in the Body either in length of time, or receivd in from without may also be corrected and at length overcome,

45. The Sick will be raisd from Sleepiness and Stupidness, usually the companion of Drowsiness by potent external Objects sharply moving the External Senses, and mean while not hurting their organs. So a great Light should be set before the Eyes; a strong Sound should be raisd near the Ears; sharp Smells applyd to the Nostrils, Spirit of Salt Armoniack, of Harts-Horn, and such-like; also sharp Spi-ces, or Salts should be put into the Mouth; his Skin should be rubd with rough cloaths; his Body should

should be expos'd to the Fire; and heat of the Air, but not to Cold: seeing it is known that Numbness is caus'd by External Cold. Yet does it not follow thence that Opium likewise producing Drowsiness ought to be esteem'd cold, because the same effect may procede from several Causes, diversly acting: add, that *Opium* is bitter, being of a fat nature, which they would have to be signs of Heat: which thing is properly to be treated in Phylics, of the possession wherof although many glory, hitherto have I found none, who after the manner of the Mathematics compeld the assent of those that differd.

46. *The Animal Spirits being too much stir'd and mov'd may be compos'd, and reduc'd to their natural, and mild motion*, by attending, or removing the Non-Natural Things occasioning too much motion: that is, by Changing the hot Air into a little cold; by Diminishing the use of Spiritous Food, and in their stead using, those that may breed Phlegm a little tough; by Granting rest to the wear'd Body; and by Causing a mild Sleep by *Anodins*, and when the Matter requires, *Narcotics*; by freeing the Mind from all anxious and biting *solicitude*, and especially by resisting bitter *Anger*, and by gaining to the Mind a pleasing tranquillity.

47. Musical Sounds will mildly reduce the Spirits too much agitated to a decent, and compos'd motion, but *Anodins* more potently, and at length *Narcotics* us'd prudently, that is, by times and in a small quantity.

48. *The Animal Spirits turning round may be reduc'd into their order*, the External Causes being remov'd, and Internal Causes being corrected; lastly, the Spirits themselves being brought to some rest.

49. Let the Sick therefore cease to look at Objects turn'd

turn'd round, more Remote, High, and very Low, let them cease to turn round their Body: but rather let them do all their endeavour, to get Sleep by Medicins often mention'd in this Chapter, and elsewhere prescrib'd in convenient forms.

50. When the turning round, and Giddiness of the Animal Spirits depends on occult Internal Causes, without the noted manifest Causes, then the Producing and Ascent of Vapors, and Wind are to be bindred, or suffocated, or discuss'd.

51. Their Production is bindred by Medicins that correct, and lessen the Humors peccant in Acrimony and Glutinousness, often propos'd before.

52. Their Ascent is bindred chiefly by Anodyns, and Narcotics often mention'd and commended.

53. They may be suffocated by a liberal taking Decoctions prepar'd of more mild and grateful Aromatics.

54. The same may be Discuss'd by Oils made by distillation of the Seeds especially, that are commonly call'd, and by Tinctures drawn by Infusion only of any parts of Aromatic Plants with the Rectifi'd Spirit of Wine, or by a distillation following; adding both Syrups, and common Waters in a convenient quantity to make a more grateful tast. Many of which Forms we have all over in this Book for Beginners sake.

55. When the Animal Spirits with the Mind are troubled by a vain and panic Terror, then, as long as he is in his Senses, endeavour, that that Lymphatic fear so often deadly to many, be turn'd away by the weight of potent Reasons, and Sleep anon banishing it be speedily brought by any helps, and so by Narcotics themselves: for unless this be very speedily, in a little time Physic will be late in preparing.

56. The

56. *The Animal Spirits made impure by External things will not be purifi'd*, unless they be remov'd; seeing that the cause, remaining, the effect remains. Remove therefore the Air any way defil'd, and corrupted Food, at least let the Man shun them: who moreover should use Medicins amending, and expelling the harm that is more, or less entred into the Body.

57. Where note 1. *Harm receiv'd with the Air* is more commodiously driven out by *Sudorifics*, those taken with Food by *Vomits and Purges*.

58. 2. Medicins that *Amend* may then also be profitably us'd, when the mentiond Evacuations are instituted: which also ought to be continu'd, after these Evacuations are begun; as not seldom before they are begun.

59. Seeing that Volatil Salts are drawn from all the parts of Man by a light Art, (of which therefore I conclude they consist) let it seem strange to none, if I so often commend, and praise *Volatil mild Salts* among the Medicins that *Alter, and Amend the deprav'd Humors of Man*; to which also I now deservedly attribute the first place in correcting, and amending the harms by Air any way defil'd, or bad Food communicat'd, especially to the Body contain'd. Nor doubt I, but, as many as now through unjust prejudice, or mere petulancy blame, or laugh at me so oft extolling Volatil Salts, if any time they would experience, how much those hated Salts may do to preserv, and restore Mans Health, that are now so hated, or ridiculous to them, being confus'd with shame they would blush; not so much because of my words, as the Gifts of God the Avenger despis'd, and contemn'd.

60. Lastly, When several Humors are ill affected
by

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by several Passions of Mind somewhat contrary, together and potently agitating Man which very oft has place, and so, that manifold Vapors rais'd by their conflux and vitious Effervescency in the small Gut are carri'd to the Heart, and Brain also, and defile and make the Animal Spirits impure, then 1. *the immoderat Passions of Mind are to be Compos'd.* 2. *The vitiated Humors are to be Corrected.* 3. *The hurtful Vapors are to be Amended, or Discuss'd.* 4. *The Animal Spirits are to be Cleans'd from their acquir'd Impurities.* And how all these ought to be obtain'd, is often told before; where mild Volatil Salts may do very much: whatsoever many Physicians noise and talk in this *Belgia*, being ignorant of most natural things, although puffed up with an empty Title of Doctors, and the practice of some years.

CHAP. XLII.

Of the Motion of the Animal Spirits through the Nervs Deprav'd.

1. **T**HE Animal Spirits being sever'd from the Blood in the Brain and Cerebellum are every whither carri'd by their continu'd Marrow as it were in a Pipe into the Nervs, not only to exercise the *External Senses*, and *Animal Motion*, but moreover, at least in my conjecture, yea Opinion to temper any *Humors*, *Choler*, *Spittle*, the *Pancreaticall*, or *Melancholic Juice*, or *Lympha of the Conglobated Glandul's*, and perhaps to afford the *primary Matter* to generate *Seed*.

2. This Motion of the Animal Spirits through
the

the Nervs according to Nature, if I may be Judg, is *Continual* and *Equal*; but *Changeable*, and *Unequal* according to the *diuers Diseases of the Mind*.

3. This *Motion* of the *Animal Spirits* is *deprav'd*,
1. when *None*, or *Fewer Spirits* are mov'd through the *Nervs then is wont*; 2. When *More*, then ought, or was expedient; 3. When they move *Unequally*, *Inordinatly*, or *beside*, and *against the Will* to certain, or all the parts.

4. I. When *No Animal Spirits* are carri'd to the *Organs* of the *External Senses*, or *Animal Motion*, the *mentiond Functions* of *Seeing*, *Smelling*, *Hearing*, *Tasting*, *Touching*, and the *Sense of Heat*, as also of *Motion* in the *Apoplexie* and *Palsie* *cease all that time*.

5. When *Fewer Animal Spirits then are wont* are carri'd to the same *Organs*, the same *Functions* are observ'd to be *Imperfect* and *Weak*, in a trembling and infirm *Motion*, not long continuing, when the *Sight* is weak and soon wear'd, &c.

6. *No Animal Spirits*, or *Fewer then is wonted* are carri'd through the *Nervs*, sometimes by their own fault, other-times by the fault of the *Nervs*.

7. The same happens by the fault of the *Animal Spirits*, when they are *Deficient*, or *Drowsie*, more or less: of which we have spoken in the former Chapter.

8. The *Motion* of the *Animal Spirits* to the *Parts* is *Deficient* wholly, or in part by the fault of the *Nervs*, when they are *Cut in two*, *Comprest*, *Obstructed*, (when they can be obstructed) or *Clos'd*.

9. The *Nervs* are *Cut in two* by any sharp things, that are apt to wound the *Body*.

10. The *Nervs* are *Comprest* by *Bands*, *hard Tumors*, or *compacted Humors*, lying upon the *Nervs*.

11. That the *Nervs* cannot be *Obstructed*, I even ther-

therefore think, because their Pipes seeing they are continu'd to the strait Pipes of the Brain, and Cerebellum, will receive nothing into them, that is not exceeding small and hath first got into the Pipes of the Brain, or Cerebellum: Into which if any contend that Vapors, or Wind may enter together with the Spirits and soon get into the Nerves, I see not how and by what means the same can judge that the noted Vapors, or Wind can congeal again, that they may there breed an Obstruction.

12. The Palsie arising by a cold Rain, whence the Cloaths are wet, so affecting this or that part, seems to prove that *Phlegmatic* and *Watry Humors* abiding about the *Nerve* may moisten and perhaps so far loosen the *Tunics*, or *Membrans*, and hence the *Marrow* that is slipping down by a closing, renders its Pipes unfit to let the *Animal Spirits* pass through, so that sometimes one, sometimes more parts do more or less lose Motion, and Sense.

13. II. More *Animal Spirits* are mov'd through the *Nerve*, then the External Senses, or Animal Motion requir'd to their perfection, 1. By reason of a vehement Motion of Mind, much vexing and molesting Man, especially immoderat Anger, Fear, or Joy. 2. Because of a continual and grievous Irritation urging about the Head of the Spinal Marrow in an Universal Convulsion, or in a sensible part of the place griev'd, or in its Nerve in a Particular Convulsion.

14. This Irritation for the most part, and perhaps always arises from an acid and sharp Spirit driven forward in the form of a Vapor into the rising of the Spinal Marrow primarily affecting in a Universal Convulsion, and gnawing it sometimes without a notable, sometimes with great pain; to wit, as it less or more offends the part likely to be affected.

15. The

15. The concurring Symptoms considerd and weigh'd with an attentive Mind will confirm that these *Sowr Vapors* rise either always, or at least most commonly out of the *small Gut*.

16. Which same Symptoms will evince that these *Vapors* are peccant in an Acid Acrimony, as also the Cure performed by most simple and known things.

17. The true Cause of a Universal Convulsion secondarily affecting, and chiefly coming upon a Particular Convulsion seems to me the *increas'd* and *fierce*, and by the continuance of the Cause provoking by degrees *more increas'd* and *fierce*, at length the evil urging all over more obstinately most *fierce Motion* of the *Animal Spirits* by reason of the Part primarily affected; for which thing all the Muscles in the whole Body are most vehemently contracted, and breed a Universal Convulsion.

18. The same Irritation may be bred in a Particular Convulsion; 1. By a *Sharp and Acid Humor*, or *Vapor fretting the Nerves* or *Membran's*, or *Tendons*, carri'd to the Muscle labouring of a Convulsion. 2. From any kind of *Prick* of the same *Nerve*, *Membrane*, or *Tendon* proceeding sometimes from an External, other-times Internal Cause, as by a *sharp Splinter of a Bone*. 3. From any other Cause, as an Inflammation, St. Antonies Fire, &c. producing a *sharp Pain* in a more sensible part of the *Muscle affected*, and especially the *Tendon*.

19. III. The *Animal Spirits* are mov'd Unequally, Inordinately, and beside, or against the Will through the *Nervus* to the moveable Parts in a *Convulsive Motion*, and forced Trembling, or Shaking of the Lims. For this troublesom Trembling, though the Body rest and lie down, is to be distinguisht from the *Trembling Motion*, of which we spake in Sect. 5. and

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which ceases when the Body is at rest, and returns again the same being mov'd.

20. The *Convulsive Motion* whether *Universal*, or *Particular*, proceeds from the *encreas'd* but *alternat Motion of the Animal Spirits* against the opposite Muscles.

21. This *Alternat Motion of the Animal Spirits*, gets an *Alternat Irritation in the Nervs* carrying the *Animal Spirits to the opposite Muscles*.

22. The *Irritation in a Universal Convulsive Motion*, such as oft occurs in the beginning of an *Epileptic Fit*, (for a *Convulsion* is wont at length to succede) is to be appointed about the first spreading of the *Nervs* tending to several Muscles.

23. The *Irritation in a Particular Convulsive Motion*, such as is oft observ'd in either *Arm*, or *Leg*, or elsewhere is to be plac'd about the rising of the *Nervs* carri'd to the opposite Muscles of the same Member.

24. And this *Irritation* is altogether to be ascrib'd to a thing very moveable and apt to pull at the opposite *Nervs*, and so to sharp and *sear* Vapors, most frequently rising up from the small Gut and piercing to the original of the *Nervs*.

25. A forc'd Trembling arises from the *Animal Spirits* driven forward through the *Nervs inordinately* and continually with some force to the Muscles of the trembling Members: whether it be *Universal*, or *Particular*; whether the Body be yet strong, or weak.

26. But the Cause of that *Inordinat and Continual Fierce Motion of the Animal Spirits* is for the most part to be sought in the *Spirits* themselves *inordinately* agitated, and especially in a *Universal Trembling*; sometimes also in the *Nervs* *tear* with a continual but

less grievous Irritation otherwise it would be a Convulsive Motion, which I judg has place chiefly in a particular Trembling.

27. The *Animal Spirits* are inordinatly agitated by *Wind and Vapors* continually ascending to the Head with the Blood, and together with the Spiritous Substance of the Blood going forward into the Pipes of the Brain and Cerebellum, soon after into those of the Nervs, and inordinatly, and impetuously agitating the Animal Spirits.

28. That a Trembling is sometimes produc'd by a lighter Irritation of the Nervs is manifest, because that sometimes a Convulsive Motion follows it, sometimes ends in it.

29. I. Seeing the *Nervs Dissected* cannot be cur'd, thus far the Defect of the *Animal Spirits* in any part cannot be repair'd. Yet because for the most part several Nervs are carri'd to the same part both to give it Sense, and Motion, no wonder if Sense and Motion oft-times remain in any part one or more Nervs being cut asunder in it, although not a little Diminish'd, with some Stupidness and Numness of the Part.

30. Motion may be Restor'd to the Animal Spirits through the *Nervs compress'd*, 1. the Bands straitning them being loosned, or remov'd.

31. 2. The over-Hard Tumors being Cur'd by Inciding, Mollifying, and Resolving, or Ripening Medicins: of which we intend to speak elsewhere.

32. 3. The tough and compact Humors being Cut, Mollifi'd, and Resolv'd, or Deduc'd, and drawn forth in the manner of imperfect Matter by Medicins described in Chap. 40. Sect. 33, 34, 35, &c. 50, &c. Where I mind one thing to be added, that Volatil Salts may be here externally us'd with great success,

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if in the time of using them they be joind to Fomentations, and Cataplasms, or be mixt with Ointments in a small quantity; whose incredible benefit such as are honest and fearing God will wonder, and celebrate.

33. If the *Nervus* may be *Obstructed*, and be indeed noted *Obstructed*, *Volatil Salts* will conduce before all others both *Internally*, and *Externally* us'd, and oft mention'd and prescrib'd by me in this Book.

34. Both *Internal Sudorifics*, chiefly *Aromatic*, and *External Incisers*, and *Discussers*, among which I again mention *Volatil Salts* will *Correct and Remove the Phlegmatic and Watry Humors* sticking about the *Nervus*, and too much moistning and loosening their *Membranes and Marrow*; and if the same abound much in the Body, *Phlegmagogues*, and *Hydragogues* may conduce us'd by turns: whose forms we have oft set down before.

35. II. When the *Animal Spirits* are carri'd through the *Nervus* in greater plenty, then ought, and should be, 1. By a *vehement Passion of the Mind*, then it is to be compos'd, at least to be reduc'd to *Mediocrity*, and *Sleep* is to be had for the Body, even by *Narcotics*, when the Matter requires, but us'd in a small quantity by turns.

36. When the same happens 2. by a *continual and grievous Irritation about the Head of the Spinal Marrow* in a *Universal Convulsion*, and indeed by an *Acid and Sharp Spirit* carri'd thither from the *small Gut*, then 1. the *sour Humors* are to be amended; 2. The rising of *Vapors* is to be hindred; and 3. Their *Acrimony* is to be diminish'd, and temper'd; and 4. Their *Expulsion* by *Sweat*, or *Insensible Transpiration* is to be procur'd; then 5. The *Part affected by them* is to be restor'd, and freed from *Pain*; and 6. The

6. *The over-Motion of the Animal Spirits is to be restrain'd, and brought to tranquillity, that is, a more quieted Motion.* All which how they may be obtain'd, is oft mention'd before, convenient Forms of Medicins being added.

37. But when the noted Irritation in a Particular Convulsion is made in a sensible part, or its Nerve of the Place affected by the same sour and sharp Humor, or Vapor, then the fore-mention'd Remedies conduce, unless that then *Externals* prepar'd with *Aromatics* and *Volatil Salts* may be together us'd with great success; which likewise are oft propos'd.

38. But when the same Particular Convulsion arises from a *Prick of the Nerve, or Tendon*, as it is known to be sometimes by the unskillfulness, precipitancy, or accident, or troubled Mind of the Chirurgeon in opening a Vein, then most speedily pour into the Wound the *Oil of Turpentine* hot with the *rectifi'd Spirit of Wine*, as *Ambrose Pare* in the Ninth Book, Chap. 38. wrote, was done by his counsel with good success in *Charles the Ninth King of France*.

39. If this be done too late, or the Wound of the Nerve, or Tendon yield not to this Medicin, the same is to be cut *asunder cross-ways*; seeing it is safer for some part that its action should perish, then that the Sick should be expos'd to the danger of a deadly Convulsion.

40. So when the Nervus, or Tendons of the Muscles are prick'd by sharp Splinters of Bones, soon after a Particular, and at length Universal Convulsion with grievous Pains succeeding, then, if possible, the extreme and sharp fragments of Bones are to be cut away; or, if this have been neglected, or could

not been done, and all incline to a Universal Convulsion, you must hasten to cut off the part affected in the most commodious place about the Fracture of the Bone; seeing otherwise the Sick must die of necessity by a Universal Convulsion.

41. When a *sharp Pain* rais'd by an *Inflammation*, or *St. Antonies Fire*, &c. in a more sensible part of the *Muscle*, occasions a *Particular Convulsion*, then diligently Labour, that that *Pain* be diminish'd, as well by *Internal*, as *External Anodyns*, or *Narcotics* also, and their Cause, whether *Inflammation*, or *St. Antonies Fire*, &c. be most speedily and pleasingly Cur'd, not omitting in the mean time Medicines, already mention'd, useful to diminish and allay the over-encreas'd Motion of the Animal Spirits.

44. III. Seeing the more remote Cause in the Body of a *Convulsive Motion*, and so of the *Epilepsie* it self differs not from the more remote Cause of a *Convulsion*, unless in the manner of acting here continually, there by turns fretting and irritating the beginning of the *Nervus*, no wonder, if for the most part these Diseases follow and are cur'd with the same Remedies mention'd in Sect. 36.

45. But a *Convulsive Motion* is wont for the most part to return by *Intervals* sometimes longer, sometimes shorter, and but seldom constantly to afflict, and then, to kill sooner not otherwise then a *Convulsion*, which is wont for the most part to continue long.

46. A *Rational and Dogmatical Cure* of a *Forc'd Trembling*, depending on an *Inordinate, Perpetual Motion* of the Animal Spirits made with force to the trembling parts ascrib'd to *Wind*, and *Vapors*, mixing with them, and evilly stirring them up so may be order'd, if 1. the *Material and Efficient Cause* both of
Wind,

Wind, and Vapors be corrected by a convenient Alteration, and if it be together peccant in quantity encreas'd, be diminish'd by a Purge and sometimes Vomit, Urin or Sweat; to which ends useful Medicins, and their Forms may be found here and there.

47. If 2. *the production of the same Wind, and Vapors be hindred by Medicins oft propos'd.*

48. If 3. *the Wind, and Vapors already bred and every-where occurring be discuss'd, or compeld to fall by Medicins in like manner oft mention'd.*

49. If 4. *The Animal Spirits forc'd to an Inordinate, Involuntary, and Impetuous Motion by them be by little and little freed from them, and reduc'd to a calm, ordinat and voluntary Motion.* Whereof the first may be by the most subtil, volatil and spiritous Medicins promoting Sweat, at least Insensible Transpiration, and so expelling them forth; but the latter by both Anodyn, and Narcotic Medicins us'd in a small quantity, and at times: which two will not be inconvenient, but expedient to be given together, seeing that so these commended Medicins do the easier come to the place of the Animal Spirits, and hurtful Vapors and Wind, and the more happily absolv both Works, wherof you may find many Forms in this Book.

50. *The Trembling which is bred by a lighter irritation of the Nervs carrying the Animal Spirits to the Muscles, may be Cur'd the same way as a Convulsive Motion; of which we have already spoken.*

CHAP. XLIII.

Of the Over-perfecting of Blood in the Spleen deprav'd.

1. **T**HAT *Blood* is carri'd to the *Spleen* through the *Arteries*, and the *Animal Spirits* through the *Nervs*; and that *Blood* is again carri'd out from the *Spleen* through the *Veins*, and *Lympha* through the *Lymphatic Vessels* may be known by Anatomical Experiments to any that Desire, and cannot be unknown to those that put their hand to the Work, and to ingenious Searchers of Truth.

2. And seeing that beside the 4 fold already mentioned kinds of Vessels there are no other observ'd hitherto, that can carry any thing to the *Spleen*, or out of the *Spleen* the natural Function of the *Spleen* is deservedly drawn from them, and chiefly according to that, in which they have receiv'd something peculiar.

3. Like as we have long ago clear'd by ocular inspection that the *Short vessel* so call'd is not a different Vessel from the branches of the *Vein of the Spleen* carrying *Blood* back from the *Spleen* and *Stomach*, but carrying it to neither.

4. The admirable Texture of the *Nervous Fibres* about the Ingress of all the Vessels in the *Spleen*, detected in this age by diligent Anatomists, doth not a little confirm my Conjecture of making the *Blood* there more subtil and spiritous, and so over-perfecting it by the *Animal Spirits* plenteously coming thither.

5. For seeing that the *Spleen* neither serves for
Sense

Sense, nor Motion, it receiveth the Animal Spirits in a notable plenty for an other end : and for what other benefit, unless that they be joynd to the Blood flowing thither, and be intirely mixt, and that they make it more subtil and spiritous then is wont, that is, more perfect, and so over-perfect then the rest of the Blood which is already perfect ?

7. Nor hinders it, that some cut out the Spleen from living Dogs : for any Creature may live, although its blood be not very spiritous. For the Spleen seems not given to Creatures so simply for life, as for a more commodious life ; as the Lungs together with the right Ventricle of the Heart are given to such only as Breath. Add that it is not yet manifest, whether the Dogs can long survive so without any detriment to their health.

7. I therefore imagin *this over-perfection of Blood* absolvd in the Spleen not as yet overthrown, but to be requir'd, and depending on the Animal Spirits, is *deprav'd* when it is either *Diminisht*, or also oft *Encreast*, seeing that *Vertue* consists in mediocrity.

8. When *the over-perfection of Blood in the Spleen is Diminisht*, there is fear, least the whole *Mass* of Blood becom by degrees *very Glutinous and Tough* ; such as we so oft observe wonderful *Crusty* in this *Belgia*, and too much cohering in its superficies, so that it can scarce be divided with a sharp knife ; as on the contrary, when the same *over-perfection of Blood is Encreast*, there is fear, least the *Universal Blood* becom *less Consistent*, and do not enough conjoyn, and cohere ; unless on the contrary it be counterveild with a tart-like *Sowr humor*, on which its natural *Coagulation* seems chiefly to depend. For this very cause I judge that *the Blood of the Spleen is joynd in the Liver not to Lympha going forward with the Descending Blood*

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Blood to the Heart, and carrying with it the Sower and-Tart parts of the Humors, but to Choler carri'd with the Ascending Blood to the Heart, and hindring the Consistency of Humors.

6. This over-perfection of the Blood of the Spleen brought by Me upon the stage seems to be Diminish'd 1. by the Defect of the Animal Spirits as well Universal, (of which we have spoken in Chap. 41.) as moreover Particular in the Spleen, because of its Nerves either Fewer, or upon whatsoever account hindred in their work.

10. 2. By the Blood more Glutinous and Viscous, whence it is less apt to receive its over-perfection.

11. 3. The over-perfection of Blood seems to be diminish'd by the fault of the spleen ill affected. For when the Blood coupled with the Animal Spirits pierces through the Vessels of the Spleen, and receives some change in them, there is no doubt but that something is to be expected should come to it from the singular Substance of the Spleen. For if its Substance be more solid and firmer, the Blood will not only move slower &c. more hindred through its Vessels, but besides its attenuation, and exaltation will be less promoted.

12. Contrarily the same Exaltation and Attenuation of Blood in the Spleen may be Encreas'd 1. by the Universal, or Particular abundance of Animal Spirits in the Spleen following many or great Nerves inserted in it.

13. 2. By the Universal Blood Thinner and more Spiritous by an over-immoderate use of Spiritous and Aromatic Liquors.

14. 3. By the over-Tender and Loos Substance of the Spleen not only giving the Vessels a free place, but facilitating the attenuation and exaltation of the Blood.

15. The

15. *The Diminish'd Exaltation and Over-perfection of Blood in the Spleen by reason of the Universal Defect of the Animal Spirits may be Cur'd* 1. by using strong and Spiritous Drink enough fermented, and so the spirit of Wine, and chiefly rectifi'd, as well single, as Aromatical, mixt with a Volatil Salt.

16. *A Particular Defect of the Animal Spirits in the Spleen by too few Nervs carri'd to it is Incurable; but when the Nervs are hindred, they are to be freed with subtil Medicins endued with an abstersive quality, which no-where is more evident, then in Volatil Salts, hitherto so little known to the great prejudice of mortals, and therefore so seldom us'd.*

17. 2. *Nothing doth so cut and amend over-Glutinous, Viscous and Tough Blood, as any Volatil Salt daily us'd at any time, but chiefly at dinner, and supper with wine, or any other convenient liquor.*

18. 3. *The over-solid and firm Substance of the Spleen may be made looser and more tender by the soft mention'd Volatil Salts and more mild Aromatics continu'd for a longer time: seeing every chronical and continu'd disease arises from a Pblegmatic Humor, at least hath it conjoind to its Cause, which yields easier, sooner, and safer to no remedy, then to a Volatil Salt us'd according to art.*

19. But *The Encreas'd Exaltation of Blood in the Spleen* 1. because of a Universal abundance of the Animal Spirits in the universal body may be Cur'd by Medicins somewhat Tart oft us'd according to art in a small quantity, and by abstaining from the daily and notable use of too Strong Drink, and so all Spiritous Liquors.

20. The same when it proceeds only from great Nervs carri'd to the Spleen, I see not how the foremen-

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mentiond Medicins may be safely enough us'd, unless in the least quantity.

21. 2. The same Exaltation of *Blood in the Spleen* encreas'd because of *its over Thinness* and *Spiritousness* by the more immoderate use of Spiritous & Aromatic Liquors *may be cur'd*, partly by bidding adieu by little and little to an immoderat use of these things noted, partly by using wisely somewhat Tart Medicins and Sauces.

22. 3. The same Exaltation encreas'd because of the *over Thin and Loos Substance of the Spleen*, *may be Cur'd*, if possible, by both internal, and external Medicins somewhat tart oft mentiond by me long enough us'd.

CHAP. XLIV.

Of the Generation of Choler deprav'd.

1. **I** Now begin to treat of the *Place and Manner of the Generation or Separation*, as also the *Use, and true Manner of the Motion of Choler*, with the *Depravations, Causes and Cure* of each, a matter indeed, before all others perhaps even now obscure in Phytic and therefore hard, and full of differences and contradictions.

2. *I thought in my 6th Physical Disputation Sect. 36. according to Experiments then known to me, that Choler was bred of the parts of Blood most like to it carri'd through the Cystic Arteries to the Bag of Choler, and by degrees piercing into the Cavity it self through the Pores of the same Coat, and there soon turning into the same nature with the rest of Choler.*

3. I judg'd the same Choler was driven forward out of its Bag through the Cystic Passage into the Common Passage so call'd, hence partly through that of the Guts to the small Gut, partly through that of the Liver to the branches of the Port and Hollow Vein, thence together with the ascending Blood to the Heart for notable Uses propos'd in the same Disputation, and more largely to be propos'd here in these following Chapters.

4. Against these my thoughts of the Rising, Motion and Use of Choler several things are sought out, and invented by divers or occurring of their own accord the experiments and arguments are brought into public; the most wherof do not so much evince them of falsity at least as much as I can judg, as render them dubious; one excepted, of which anon.

5. Nor is the controversy mov'd against me publicly upon this matter elsewhere only by Famous and Learned Men, but, which you may wonder, and at which mine Adversaries rejoyce, even here by some of my Students seeking a little praise in a trivial matter, shall I not say singing to themselves moreover a triumph before the victory is got, war was not so much denounc'd against me, as brought suddenly upon me not open, but coverd, and conceald, whereby some perhaps did hope that I would be 1st surpris'd before I had notice of the contest approaching, and to be undergone.

6. But, I being only addicted to the searching out of Truth, and to promote the common good of men have learn'd also being conquer'd to triumph with the Conquerors, I was not in the least afrighted from my purpose with so many troops diversly arm'd, but rather exceedingly stirr'd up and corroborated in prosecuting the same more cheerfully.

7. And although hitherto I did hope that all, to whom

whom I have bin in stead of a Parent by a faithful information and manuduction to practice (that I do not now mention evident testimonies of my love and benevolence) would be mindful of their oath, or sponfion solemnly given when they were here made Doctors of Physic, being then put in mind again that they should account Me instead of a Parent, and if they thought they had observ'd any thing less consentaneous to truth, or the benefit of mortals in what I said, or wrote that they would courteously tell me of it as I oft desir'd them, and mine other Auditors. Yet was the contrary done here, nay rather their councils and arts by which some of them did glory that much would be detracted from my reputation whatsoever it was and my fortunes also, were made known on what hope of Promotion I understand not sooner to mine Adversaries then to me.

Therefore I being secure of the good event, when it was signifi'd to me by my Friends in the neighbouring Cities, and anon by those that liv'd in it. is also careful of me, and my reputation so call'd in question in what great danger my fame seem'd to many to be brought, that Physicians my own Students would carry away the solemn and public desir'd victory of me conquerd, and dejected, with greater praise of their own name, I took care that the following Corollary wherein their chief arguments were contain'd should be insert'd in the Disputation to be held publicly in the Physicians Auditory, I being President.

8. That neither 1. *The defect of a Bag in Horses, Harts, and other Beutes; nor 2. the insertion of the Cystic Passage with that of the Guts to an obtuse Angle, and with that of the Liver to an acute Angle; nor 3. the Ligature of the Cystic Passage, or the cutting & sunder the Bag, and the collection of Choler (but more fluid,*

fluid, pale, and less bitter, then was taken out of the Bag it self) in a Glass Vessel fastned to the Passage of the Guts do disprove the Motion of Mans Choler out of its Bag through the Branches of the Hepatic Passage to the Heart.

9. Against which Position of mine, my noted Academic Students invited to this Banquet, disputed sharply in the 15th and 19th day of December, 1668. who, otherwise then I, thought that both the Observations of Anatomists mentiond in the Corollarie, all the Rules of Mathematicians about Motion, and the subtil Rules of Logicians stood for them: and with what success that Fight was carri'd on, Learned Men alone then present, and void of Prejudices, could and ought to judg. At least I surviving that Fight am prepar'd to begin another Dispute at any time to search farther the Truth, now much latent in this Controversie of the true Motion of Choler, be it of what sort soever privat, or public, honestly to Discourse in Writing or by Word of Mouth with any.

10. But, that I may more from the beginning repeat this Matter to a greater illustration of the Truth, I confess of my own accord that among the Arguments offerd by many and communicated to me against my Conjectures of the Rising, and Motion of Choler, I never met with any that much urg'd, beside those things which *Marcellus Malpighius*, a Man for many Causes accounted Excellent, and not only most diligent in unveiling the Secrets of Nature by Anatomy, but most candid and courteous in refuting friendly and mildly, even to the Example of others the Opinions of those that think otherwise.

11. He from his Experiments (which although I my self could not as yet reach by the multitude of business,

business, yet take them from so ingenious a Man for true) says that the whole Liver consists of manifold Lobes, which are joind to certain Glandulous Knobs; by which the extreme parts of all Vessels bringing in and carrying out, that is to say of the Port, and Hollow Veins, Hepatic Arteries, Nerus, and Hepatic Passage of Choler, and of the Roots springing from the Bag of Gall are ended: all which, as being very small Vessels, although unperceivable, yet seems it consentaneous to Reason that they are so, as he admonishes.

12. Which things so observd, being suppos'd or granted, the Separation of Choler may be expected in the mentiond Glandulous Kernels; as the same most Ingenious Man very probably thinks that all Purifying, and Separation of the Juice, whether Excrementitious, or Useful out of the Mass of Blood is had in the Glandules only.

13. And although according to the Experiments of that Illustrious Malpighius admitted, I seem at least in part to change the Place, and Manner of the Separation or Generation of Choler hitherto believ'd and assign'd by me, and the Manner, whereby I judg'd Choler was mov'd, yet I see not that the Use of Choler, which I esteem the chief thing to perfect a Body of Physic, and whereat I aim, is refuted.

14. For although, his Experiments being suppos'd Choler be separated in the Glandulous Kernels of the Liver, and some part of it be carri'd streight way through the Hepatic Passages of Choler toward their Trunc to that of the Guts, and another part through the Roots of the Bag to its Cavity, and thence through the Cystic Passage to that same of the Guts, and the Gut it self: yet doth it not follow thence 1. that nothing of the same Choler passes out of the same Kernels to the least Branches of the Hollow

Vein

Vein implanted also in the Kernels. 2. That none of the same Choler carri'd through the noted Hepatic Passages of Choler passes into the Branches of the Port Vein closely conjoin'd to them. For it is neither prov'd hitherto by Him, nor any other, as I know of that Choler is separated out of the Venal, and not Arterial Blood. It is indeed said, but not prov'd by Him, or any else that the Port Vein doth supply the Office as an Artery; which being Hepatic, is not wanting but appearing.

15. Before I procede to the Motion of Choler, I have one thing to admonish of its Rising, even according to the Experiments of the mentiond Malpighius, that it is to be determin'd two-fold, the one single of Choler receiv'd out of the Glandulous Kernels through the least Branches of the Biliar Hepatic Passage, and driven forward straight way toward the greater Trunc; the other double of Choler admitted through the Roots of its Bag out of the same Glandulous Kernels, and anon carri'd to the Bag it self, and staying there a while, and getting if not a new, then at least a farther change before it be poured out through the Cystic Passage. Whence perhaps (as is set down in Sect. 8.) the Choler receiv'd out of the Passage of Choler alone is more pale, fluid and less bitter, then that which is gather'd in its Bag.

16. None ever deny'd, that Choler is mov'd to the small Gut, seeing it may easily be clear'd by evident experiments; but many deny that it is carri'd upward through the Liver and the Branches of the Hollow Vein to its Trunc, and so with the Blood to the Heart, as for me I do not doubt now to assert, being mov'd with two Arguments especially, least I should be too long; wherof one argues Motion through the Hepatic

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the Passage of Choler to be possible, the other that it is necessary.

17. None can deny that Choler may be carri'd through the Hepatic Passage to the Heart, that knows there is an open way for it through this Passage, and hence through the Hollow Vein which the Experiment made by me, and others, describ'd in my Sixth Physical Dispute, Sect. 51. proves, which is by thrusting in a Pipe, and then blowing Wind into the mention'd Passage, out of which Wind is observ'd by degrees to have pierc'd to the Trunc of the *Vena Cava*, and the Right Ventricle of the Heart, and so to the Lungs themselves: seeing all those parts are puff'd up by that Wind.

18. The Jaundice demonstrates Choler to be necessarily carri'd out of the Liver toward the Heart, not only out of its Glandulous Kernels, but also out of its Bag through the Passage of the Liver; whether it be ascrib'd to the Passage into the Guts Obstructed, as is the common Opinion of Physicians, or be caus'd by the Spiritousness of the Universal Choler, and especially that of the Cystica encrest, that is, elaborated in its Bag according to Sect. 15. which I judg to be most consentaneous to Truth for Reasons oft to be propos'd in Chap. 46.

19. As therefore in the Jaundice, in the preternatural state of Man, either all, or at least the most of Choler is manifestly carri'd toward the Blood, so in a mean Health, and a natural State of Man we must wholly conclude that much of it is carri'd thither: especially seeing not one solid and binding reason against this Motion, is hitherto offer'd by any, as far as I know.

20. Now these things of the Rising, and Motion of Choler

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Choler being chang'd after a certain manner according to Experience, the Use assign'd to it by Me remaining still, let us see how many and what ways every one uses to be deprav'd; the Separation, or Generation of *Choler* may be deprav'd 1. When it is more or less Deficient. 2. When too Much. 3. When bred variously with a Vicious Quality.

21. 1. The breeding of new *Choler* is more, or less Deficient both by the fault of Blood, and of the Glandulous Kernels.

22. This comes to pass by fault of the Blood, as oft as the useful and necessary parts that are requir'd in it to repair, and restore *Choler*, are intangled and detain'd in it, and so hinder its Separation.

23. All Aromatics especially those that are bitter, and Volatil Salts, chiefly those that are Oily do conduce to repair *Choler*.

24. The Contraries to *Choler* are Acids, and especially Tart, as also Viscous, and Earthy things hindring its Separation.

25. The Blood becomes so 1. by cloudy and cold, and so North Air. 2. By viscous, and tart Food. 3. By much and deep Sleep. 4. By sorrow and terror of Mind. 5. By too much rest of Body. 6. By a more Costive, and sometimes loose Body.

26. *Choler* may be Deficient by the fault of the Glandulous Kernels, as oft as they are less apt to promote its Separation: although, it is not yet evident, what kind of ones are requir'd to that end.

27. I have at least observ'd this, that Medicines, rendering the Blood fit for the Separation of any Humor, do likewise render the Parts, in and from which all Separations come, apt to finish the same Separation: whence I conclude that there is such an affinity between the Parts, and Humors to be Separated in

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that the Blood, and Parts appropriated to that Office are help'd, or hurt by the same thing : From which affinity I hope it will come to pass, that the Nature of every Part serving to every Function or Separation will sometime be found out by any call'd to it.

28. II. The *Separation of Choler* out of the Blood is *Encreas'd* in like manner sometimes by the fault of *Blood*, other-times of the *Glandulous Kernels*.

29. It comes by the fault of the *Blood*, when it *abounds* with very convenient parts to breed *Choler* ; and is not hindred by the contrary things noted in Sect. 24. by reason of all the External Causes, at least the most, and together most desirable concurring for some space.

30. The *Blood* *abounds* with fit parts to produce *Choler*, 1. Because of *warmer* and hot, and so *Summer Air*. 2. Because of *Spiritous and Fat Food*, and chiefly abounding with an *Oily Volatil Salt*, such as are strong and sweet Wine, fatter Fleth, the best Leavend Bread, stronger and bitter Beer, &c. Hitherto belong all Sauces, both Aromatical, and especially Bitter. 3. Because of daily *Watchings*. 4. Because of frequent *Anger*. 5. Because of vehement and great *motion of Body*. 6. Because of a *Costive Body*, *Choler* being retained in the Body, or looser, it abounding, and seeking an Out-let any way.

31. *Sweet and sugard, or bonied Sauces* seem to me not so much to *encrease*, as *trouble*, and *stir up*, and *set on* *Choler* to make a vitious Effervescency : whence oft an hurtful, yea sometimes together deadly *Vomiting* and *Loosness* useth to follow their over-use, and so *abuse*.

32. The *Separation of Choler* may be *encreas'd* by the fault of the *Glandulous Kernels* when they have got

got a vitious, and new, or at least encreas'd convenient disposition to separate plenteous Choler by reason of the same fore-mention'd primary faults of Diet longer continu'd.

33. III. *Choler* is bred with a vitious quality, when 1. it is more purely, or obscurely yellow in Colour according to its proper sensible qualities; more or less bitter in Savour; more or less sharp or scetid in Smell; in Hardness when congealing into stones it gets a notable consistency and firmness; or, 2. according to its common sensible qualities, it is sometimes more consistent or fluid then is naturally; and therefore sometimes more glutinous, other-times more liquid, that I add nothing of its chang'd, and already propos'd plenty.

34. Seeing that both Colours, Savours and Odors are observ'd to undergoe incredible changes from most different things, I of mine own accord confess that hitherto I cannot assign exactly their true Causes and accurate Reasons; and would receive them with a glad and grateful Mind from any so happy. Which things lying hid, yet to be found out by the multitude of Observations, and to be brought to light by the help of Ingenuity, I with the Royal Societies, appointed by the Authority of Great Kings, and without doubt abundantly instructed with necessary helps to absolve such a Matter, would not forbear to take pains useful to the Common-Wealth.

35. I am taught by the Observations of some years that the Consistency, and hence Glutinousness of Choler, and oft the other Humors in the Body are Encreas'd by a frequent use of Tart things, the same on the contrary are Diminish'd by the continued use of Volatil Salts and Sharp Aromatics.

36. I. The greater or less Separation of Choler

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Deficient, caus'd either by the Blood; or the Glandulous Kernels of the Liver *may be Cur'd* 1. by *Air* Hot naturally or by art. 2. By *Food* and *Sauces* a-bounding with a Volatil Salt and Spirit, and especially bitter. 3. By *Watchings* a little exceeding custom. 4. By moderat *Anger*. 5. By *Exercise of Body* somewhat too vehement. 6. By the *Body* kept soluble, but not too loose, and fluid.

37. Among *Medicins* having experienc'd I commend a frequent use of *Oily Volatil Salts*; as also of *bitter Aromatics* and chiefly of *Wormwood*, and such-like any way us'd.

38. II. *The excretion of Choler more, or less encreas'd, may be Cur'd*; 1. By more cold and Northern *Air*. 2. By *Tart*, *Glutinous*, and a little *Spiritous Food*, and *Sauces*. 3. By *Sleep* encreas'd even by *Art*. 4. By moderat *sorrow of Mind*. 5. By *rest of Body*. 6. By keeping the *Body* somewhat *Costive* after *Choler* is purg'd out by *Rhubarb*.

39. All *Tart* and *Earthy Medicins* encreasing the Consistency of *Blood* may avail here, whither all fat and scald *Earths* belong, *Bole Armeniac*, and *Coral*, *Pearl*, &c. In the use of which beware, least while you avoid one mischief you fall into another, they are therefore to be us'd in a small quantity, and at times, wherby so the *Blood* turgid with *Particles* of *Choler* may by degrees be amended.

40. III. *The Savour of Choler being less bitter*, may be corrected by frequent use of *Sauces*, or *Medicins* mildly bitter, especially of *Wormwood*, and *Wormwood Wine* made of it, and such-like.

41. The *Hardness* ascrib'd to *Choler*, compacted into *Stones* *may be Cur'd* by the *Juice* and *Decoction* of *Grass*, as also by the *Spirit of Nitre* as well pure, as dulcis'd us'd in *Wine*, *Beer*, &c.

42. The

42. The *increas'd Consistencie of Choler* may be Cur'd by somewhat sharp *Aromatics*, and chiefly by all *Volatile*, but especially also *Oily Salts*.

43. The *increas'd Fluidness and Liquidness of Choler* may be Cur'd by a prudent and continu'd Use of mildly *Tart things*, Verjuice, Quinces, Medlars, Wild-Plums, &c.

CHAP. XLV.

Of the Retention or Excretion of Choler in its Bag deprav'd.

1. **S**EEING that enough of *Choler* is always observ'd to be gathered and kept during Health in the *Bag of Choler* in all Creatures that have a Bag (which if it be not sent out through the *Cystic Passage* perpetually, then at least by Intervals, whithersoever to be sent afterwards) it is deservedly enquir'd into the Causes and Cures of it *Retain'd*, or thence *Sent out* beside nature.

2. *Choler* is too much *Retain'd* and therefore accumulated in its Bag either by the fault of it self, or of the Bag.

3. *Choler* is *Retain'd too long* by the fault of it self in its Bag, as oft as it is too *Glutinous*, and so less fit for motion, or compacted into *Stones*, and therefore most unfit for excretion: neither doth the motion and contraction of the Bag seem to be so potent, as to expel the *Stones* within it.

4. *Choler* becomes more *Glutinous* by such-like Food or *Tart Sauces*, long us'd; as also by cold and sharp

Air, and sorrow of Mind by which the Juice of the *Pancreas* especially, and hence the universal *Mafs* of *Blood*, and anon all the *Humors* become too *Glutinous*.

5. *Choler* is compacted and coagulated into *Stones* by a *Lapidescence* so call'd by some, or rather to be call'd a *Juice making a Stone*, which I suspect gets its strength from a *Tart acid*, seeing that *Stones* and *Gravel* are dissolved by a *subtile and sharp Acid*.

6. *Choler* may be Retain'd too long in it by the fault of its *Bag*, as oft as its *Fibres* become too loose by reason of an exceeding collection of *Choler*, or the *Animal Spirits* become deficient in them, chiefly because of its *Nervus* ill affected (although I think either of these *Causés* seldom hath place here) or its *Out-let* may be obstructed by *Choler* compacted into an extremely *Glutinous Humor*, or *Stone*.

7. The same *Choler* is sent forth too much out of its *Bag* in like manner by the fault either of it self, or of its *Bag*.

8. By the fault of it self, when *Choler* is more fluid and liquid, by over-using *Aromatic*, sharper and bitter *Sauces*, or *Medicins* and any kind of a *Volatil Salt*; by which before all other things *Choler* is made very Liquid and fluid, yea the *Universal Blood* also, and anon any *Humor* separated out of it.

9. Hither belong The warm and summer *Air*, frequent *Anger*, motion of the *Body* vehement enough long continu'd and prolonged *Watchings*.

10. *Choler* is too much sent forth by the fault of the *Bag*, as oft as the same is very much provok'd to contract it self; which seems to have place, when the *Bag* is provok'd by sharp and very volatil humors, and so with such-like *Poisons*, as *Arsenic*, &c. either first vitiously effervescing with *Choler* in the small *Gut*,
and

and sending such-like vapors through the *Lactéal* Veins towards the Heart, hence every-whither with the Blood and to the said Bag, or otherwise carri'd thither any way, and corroding; or a Vicious Effervescency with Choler is stirr'd up in the same, whence the same Bag is likewise provok'd to Contract it self by vapors then rais'd because of their plenty or acrimony.

11. The *over Glutinousness* of Choler may be Cur'd, by changing as much as may be, the Diet mention'd in Sect. 4. into a somewhat contrary diet, and using *Aromatic, somewhat sharp and bitter Sauces and Medicines*, and especially *Oily Volatil Salts*; by the help of which I have oft cur'd the toughness of Choler exceeding.

12. Seing it is hard to know that Stones are bred of Choler, no wonder if their Cure seems an unheard of thing to many Physicians. Yet because, when Stones are found in the Bag of Choler after death, the the rest of Choler is like lees, and abounds with dregs and excrementitious settlings; such as I have oft observ'd sent out by vomit; I should think such are to be feard, least some part of Choler grow into stones, whilst the other turns into such excrements; and therefore *Medicins that dissolve these Stones of Choler*, as also *that hinder any Concreescency* are then to be us'd.

13. Among medicins that dissolve Stones of Choler I doubt not to refer (which I mention'd in one word in the former Ch. 41.) *the roots and herbs of Grass*, either distill'd, or, which I prefer, boild or bruisd, and the Juice exprest out of it, Sugar or Honey being added to make it pleasant; seeing that it is known by manifold experience that Oxen and Sheep whose food in Winter is hay, and have a stonelike, or gravelly

vellish crust compacted in the Passage of Choler, so soon as they are again turn'd to grass in the month of May, are by degrees freed from that disease; it being a sure argument that green and new Grass has that force of dissolving Stones, that is lost, when it is dri'd into hay.

14. The *Spirit of Nitre* also conduceth to dissolve Stones, which therefore I likewise commend in this case; and chiefly, after it is dulcifi'd and made mild with the spirit of wine: which may be us'd safely to x. xii. or more drops, in Wine, Beer, or any other Liquor, though Physical, and that oft in a day.

15. Any *Volatil* but chiefly also *Oily Salts* will hinder a new Concretion; being such as purify, and cleanse Choler, as I am taught by manifold experience.

16. If after a great collection of Choler, and exceeding distention of the Bag, its Fibres are greatly loosend, I see not how they can be restor'd except gradually, more mild *Aromatics* being us'd for some space as well internally, as externally.

17. The Defect of the *Animal Spirits* is to be repaired by *Spiritous Food* us'd prudently, that is, in a small quantity, or daily.

18. An *Obstruction* being in the Out-let or Passage of the Bag, and arising from Choler compacted into a most tough humor or stone may be Cur'd by dissolving that Humor or Stone by the newly made or purified Juice, Decoction, or Water of Grass oft taken, adding the Spirit of Nitre either single or dulcifi'd, together with sugar, or honey to make it pleasant.

19. On the contrary Choler more Fluid and Liquid may be Amended, and its too great excretion may be Cur'd by shunning *Aromatic Medicines* and Sauces, and all *Volatil Salts*, and in their stead using any thing

thing that is somewhat *Tart*, Verjuice, Wild Plums, and their Juice, several fat Earths, Bole Armeniac, the Earth Lemnia, and any that is Scald.

20. *Hot Air* is to be chang'd into *Cold*; *Anger* into *Sorrow*; *Motion of Body* into *Rest*; *Watchings* into *Sleep*, to which we must something give way.

21. As oft as a great Irritation of the Bag of Choler, and a plentiful Excretion of Choler is made by *Poison* taken in, so oft the *Acrimony* of Poisons is to be temper'd all sorts of ways, yea it is to be expeld by *Vomit* or *Stool* as speedily as may be.

22. *Fat things* before all others do Temper and Blunt the *Acrimony* of *Poison*, whence *sweet Milk* is even in common use, chiefly hot, or warmd, Oil of Olives, or of sweet Almonds, fat Broth, a Decoction of Figs, and such-like, which taken alone, or with warm Water plentifully, and oft do blunt, dilute, and render *Poison* taken in voluntarily, or by chance fit for Evacuation upward, or downward.

23. When these suffice not, mild Vomits, or Purges may sometimes be given.

24. To Blunt the *Acrimony* of *Poison*, and to drive it creeping to the more inward parts of Man forth through the *Habit of the Body* *Opium*, and all *Opiats*, Treacle, Mithridate, *Diascordium*, *Orvietanum*, &c. conduce.

25. The vitious Effervescency of Choler both in the small Gut, and in the Bag of Choler may be hindred, temper'd, and at length allaid by the fore-mentiond *Opiats*, especially *Diascordium*; as also somewhat tart earthy things likewise fore-mentiond, the Lemnia and Scald Earth, Bole Armeniac, Dragons Blood, Blood Stone, Crabs-Eyes, Pearl, Coral, Chalk, &c.

26. I add not the Forms of Medicins in every place, seeing it is easie for a Young Phylician to invent

vent new Forms, and such as may satisfy every Indication from those many already before propos'd.

CHAP. XLVI.

Of the Motion of Choler to the Gut hindered, and in special of the Jaundice.

1. **T**HAT Choler in a most healthy state flows down to the small Gut through its Passage of the Guts, is not only sufficiently prov'd by the Fabric, and Structure of all those Parts, but by Choler it self found in the said Gut, yea by the Excrements colour'd by it; that I bring not Arguments taken from the same Choler in a Non-natural or Preternatural State sent forth bitter enough, and that plenteous enough by Siege or Vomit.

2. *The Motion of Choler to the Guts is sometimes hindered*, when it is more glutinous and viscons, and therefore more unfit for motion, of which depravation we spake in the former Chapter; or when there is a straitness in the Cystic Passage, or in that to the Gut, because of which Choler is mov'd with more difficulty, and so more slowly, and sparingly through them; which may be both by Choler very glutinous glued to the sides of the noted Passages, and also by the same growing together into a stone-like Matter, and in like manner adhering by degrees to the noted Sides. For it seems not impossible that that may befall Men sometimes, which is observ'd so oft to happen to Cattel and Beasts in the Winter Season.

3. The descent of Choler to the Gut may be wholly taken away by an Obstruction of the Passage of Choler
into

into the Gut, risen either by Choler it self most glutinous overlaying and at length wholly filling that Passage by degrees more, and more, or by the same Choler lapidescent, and likewise stopping the whole Passage.

4. It is commonly receivd that Choler wholly hindered in its natural Descent ascends with force to the Liver, because of the noted Obstruction of the Passage to the Gut, and is so carri'd to the Blood, and anon transferd with it to the habit and superficies of the Body, and there breeds the Jaundice.

5. And although I suppose the Jaundice may sometimes be raisd by the foresaid Obstruction, yet do I not judg that that Obstruction suffices to breed it, unless Choler then abiding in its Bag especially get a new change.

6. And that I should be so perswaded, very many both Anatomical, and Practical Experiments move, and in a manner constrain me; which I desire may be always conjoind, as oft as may be, by those who desire to do any thing profitable to Mortals, and so to Physic it self in the Illustration of the more obscure Natural, and Physical things. For it oft falls out, that some Anatomical Experiments seem to contradict Practicals, whence by their long comparison together, and an accurat weighing of all the Circumstances, Truth the more happily and profitably appears. But if this be neglected, our Knowledge is rather obscur'd, and things now occurring to us less distinctly of themselves are the more confus'd.

7. I have Observd 1. in dissecting Ictericall People that the Passage to the Gut, or that call'd Cystic was not always obstructed.

8. 2. I have Observd, that the Excrements are not always pale in the Jaundice, although less dyed then usual.

9. 3. I have Observ'd the Jaundice oft sooner bred, not only by a peculiar Poison, but by a grievous and unexpected sorrow of Mind, then that any can perswade either themselves or others, that an Obstruction could be bred so suddenly from what Cause soever at length then present and acting in the Passages of Choler.

10. 4. I have Observ'd the Jaundice Cur'd by Medicins, and that soon enough, by the help whereof any (unless prepossess'd with Prejudice) can scarce believe an Obstruction could be open'd, or so soon open'd. To this number I refer Cows Milk build with Hemp-Seeds, by the help of which only benefit I have cur'd several, and known many of the Common People cur'd: Hither I refer Sope prepar'd both with the Oil of Olivs, of Turneps, or of Whales; and in like manner dissolv'd in Milk and taken.

11. 5. I have Observ'd many Infants born with the Jaundice, or the Jaundice soon break forth in them after Birth.

12. Seeing from these Observations it is manifest that the Jaundice may be produc'd without an Obstruction of the Passage of Choler, it is deservedly askt, what is, or may be its true Cause?

13. That this may be the more happily and easily search'd out, I will premise the commonly known Symptoms that indicate the Jaundice instant or present, anon I will join some others, noted perhaps by few.

14. The Compressive Pain therefore of the Heart so call'd, most troublesome about the Lower Region of the Stomach, is wont more frequently to precede, and also to accompany the Jaundice in the beginning Anxieties and obscure Gripes concurring in the Right Hypochondre, where both the Bag of Choler, and its Passage is.

15. The

15. The Excrements are usually white, or of an Ash colour, and not diversly dyed by Choler, as at other times; yea the Sick have more seldom a motion to go to Stool.

16. By and by the Urin comes obscurely red, and colouring a Linnen Cloath dipt in it of a Saffron Colour.

17. At length there breaks forth in the Face and Neck, and more evidently in the Coat of the Eyes call'd *Adnata*, constituting their White, hence through the universal Skin of the Body a Citrine and yellow Colour, yea sometimes inclining to an obscure greenness; whence it is sometimes call'd the yellow, sometimes the black Jaundice.

18. When the Jaundice inclines, sometimes a great itching is felt in all the Superficies of the Body.

19. Among the External Causes I have oft seen the Jaundice bred by the abuse of Spirit of Wine, and of other strong Drinks, and the Dropsic *Ascites* succeeding, for the most part deadly.

20. All which being rightly weigh'd, I think whether the Obstruction of any Passage of Choler have place, or such an Obstruction cannot be feign'd, that then Choler suffers a notable change, by reason of which it is mov'd and carri'd more fiercely and plentifully towards the Blood, with which notwithstanding it is less mixt then is wont to be, but only confus'd with it, and therefore it the easier severs from it, and not only joins it self to the Skin, and External Parts, but to the Muscles also, and Bowels, and infects and dyes them of its own Colour.

21. For Choler being as it is naturally is mixt and imbodyed not only loosely, but most intirely with the Humors occurring both in the small Gut, and also in the Right Ventricle of the Heart, and that so,
that

that it cannot be more separated by them : which Union is by reason of its Effervescency instituted in both mentiond places with the Sowr Humor flowing there.

22. Because therefore in the Jaundice that most in-
aire conjunction of Choler with the other Humors, and according to some parts thereof a Mixture, as also that mentiond Effervescency seems to be requir'd, if not wholly, at least in part hundred, let us see, wherein the Cause of both these effects, yea and the Cause al-
 so of the Jaundice may be known, *what is requir'd in Choler to perfect each Effervescency, and what may befall it, as to diminish or remove it.*

23. It is now known to all sorts of Persons, *that any Effervescency happens between an Acid and Lixivial Salt, or that which partakes of a lixivial Salt ; and in as much as it partakes thereof.*

24. And whoever shall examine Choler, and confuse it as well with Sowr Liquors, as with Lixivial Salts of any kind, will easily see that Choler concurs to stir up an Effervescency by reason of its Lixivial Salt, but much temperd many ways in it ; least there should be a potent and vehement, and so hurtful, instead of a mild and to Nature friendly Effervescency in the Body.

25. And if Choler has the esteeme of a Lixivial Salt in stirring up an Effervescency, let us go farther and see, how its Salt may be affected, that it becomes less apt for an Effervescency.

26. Again it is known by Experience that the purest, and so sharpest Lixivial Salt is most apt for an Effervescency ; which same on the contrary howsoever dull'd-becoms more, or less unfit for an Effervescency.

27. Many things Blunt the Acrimony of a Lixivial Salt,

Salt, and 1. indeed *Oily and Fat things*; which any Sope testifies. 2. Every *Volatil Spiritous Liquor*; which the Salt of Tartar volatiliz'd with the highest rectifi'd Spirit of Wine testifies. 3. Every *Earthy Thing*; which Coral, Pearl, Crabs-Eyes, Chalk, and many others testify.

28. *Water promotes and facilitates* the Effervescency of a Lixivial Salt, if a little be joind to it; and it *abates and allays* the same, if much be poured to it.

29. *Fire alone sharpens and increases the Acrimony* of the same Lixivial Salt; whence how much the longer it is urg'd by the force and flame of Fire, so much the sharper it becoms, and more convenient for a potent and vehement Effervescency.

30. And that we may accomodate all these things to our present Business, and according to our Ability bring a clear Light to the Doctrine of the Jaundice enough obscure, who ever shall attentively consider *Choler*, will easily own that not a little of *Oily and Fattish* is mixt with it according to Nature; because of which, as the most potent and effectual, and therefore that which doth primarily blunt a Salt Acrimony, the Effervescency of Choler either in the Heart, or in the small Gut is never observ'd sharp or great during Health.

31. That something of a *Volatil Spirit* is mixt with the same Choler any will acknowledg, who not only sees that Nerves great enough are carri'd to the Liver, but moreover knows that it will be easily mixt with any thing; which would not be, unless a Volatil Spirit were mixt with it in a notable quantity: for by reason of its Oiliness accompanying a Lixivial Salt, it is more difficultly mixt with any thing, to which as oft as a Volatil Spirit is joind, it is more apt

to mix with any. And thereby the Salt of Choler is rendred more temperat ; whence also hitherto its Effervescency is also more mild in a natural state.

32. *Something of Earth is found in Choler ; yet not so much as many evilly think, because they either work ill, or reason ill ; otherwise it would be less movable, and fluid, and less joining it self with other things, yea rendring the same movable ; as that is peculiarly manifest in the matter of Colours, which is rendred more fluid, and apt to cast a colour by Choler mixt with it. By Earth although but little mixt with it, the Effervescency of Choler is weakened, least it should be potent, and sharp in an healthy state.*

33. I cannot pass by here with silence the gross and hurtful error of certain Men in gaining knowledge of natural things by *Chymistry* : For they think all things, that are in natural things, are manifested by Distillation only, and that nothing is contained in them, that comes not off by Distillation ; as though Fire alone, as some wrongfully think, were the Agent, and that Universal, which brings every change to Natural Things ; which they who assert, do thereby fully testify how little they are versed in taking up Chymical Experiments ; seeing that infinite changes occur, which cannot be deduc'd from the Fire, and not a few, that are advers to the Fire. Of which Matter I intend to mention more, if at any time God give me leasure, and other necessities to perfect that Work ; whereby I may communicate in public the Science of Natural Things which I have pondered in my Mind 36 years.

34. *Such, and so great a Fire in mans Body by which the Lixivial Salt of the Choler may be burnt, and become*

become sharper cannot certainly be feign'd by any of a sound mind, no not in a state most inclin'd from that which is natural; seeing that, if any examin the matter rightly, the primary Cause of a more intens Heat that is in the body it self in a non-natural, or præter-natural state is to be requir'd, and deduc'd from Choler.

35. I said the primary Cause of Heat in the body, whether Internal; whereby I may distinguish it from any External Cause, which nothing hinders but that I may call it either common *Fire* kept in with any kind of fuel, or by the *Sun* by which that all the Humors and especially Choler become more sharp is known to every one.

36. Therefore as oft as Choler is renderd Sharper in mans body, and that in its proper acrimony to wit consisting in a Lixivial Salt, so oft that acrimony is to be sought, and deduc'd from the External Heat sometimes of the Sun, sometimes of common Fire.

37. I said in its proper acrimony, whereby it may be distinguisht from the Accidental, which happens by an Acid sharp acrimony mixt with it, which breeds Choler sometimes Green, sometimes Black, to wit as a sharp Sour acrimony is more, or less mixt with Choler, and constitutes a compound Humor although known only by the name of Choler.

38. Seing therefore among those things, which are found in the Body, and may and ought to be referd to the Internal Causes, nothing occurs, beside the *Sour Juice* that may render Choler Sharper, it is also very evident, to what the *Burning of Choler* commonly more celebrated, then understood, or explaind ought to be ascrib'd.

39. These being so premis'd, we must further

enquire To what especially the unfitness of Choler in mixing, and intirely uniting it self with the other Humors in the Jaundice is to be ascrib'd.

40. That this may be more easily, and evidently manifest, consider that the Jaundice is in a short while rais'd by the biting of a Viper : whose Poison, because it is wont speedily to absolv its work, is wholly to be judg'd very moveable, and so subtil, yea of a Volatil and Spiritous nature.

41. The Jaundice oft enough coming upon drinkers of more strong wine and especially of its Spirit, because of the neglect also of other more solid food, and chiefly when any sorrow of Mind hath preceded, and remains doth seem to confirm, yea to prove that the Jaundice may be bred by a very Volatil Spirit too plentifully mixt with Choler, and making it more Spiritous.

42. So that it seems not absurd or improbable to me, that Choler is rendred over-Spiritous when it causes the Jaundice, sometimes by the most potent and spiritous Poison of Vipers in a short time, sometimes stronger Drink daily us'd, and for a longer time, and less apt to effervesce with Acids conveniently, and hence most intirely to join it self with the other Humors.

43. But some attentive to this matter may say, If Choler may be so chang'd by the Poison of a Viper, or any other thing or too strong Drink, that the Jaundice may be bred without an Obstruction in the Passages of Choler, Choler will not cease at least to be carri'd to the small Gut, from which although a less and weaker Effervescency with the Juice of the Pancreas happens there, why are not the Excrements at least colour'd by the same, as it is wont to be in other causes?

44. To

44. To which difficulty that I may give satisfaction, I Answer 1. that in every Jaundice the Excrements are not equally white, and therefore less died with the yellow colour of Choler: whence I judg sometimes more, sometimes less of Choler is also mixt with the Excrements in the Jaundice, by which they are More, or less died.

45. I Answer 2. that in every Jaundice, Choler is not alike evilly affected; whence thus far also it may be mixt more or less with the Excrements, and die the same.

46. I Answer 3. That the Excrements should be rightly died by Choler, there is requir'd a previous and sufficient Effervescency of the same with the Juice of the Pancreas, because of which its divers parts separate from each other, and having a Tincture are joind to the Excrements.

47. I Answer 4. If during the Jaundice Choler be more Spiritous, and volatil, and therefore more fluid and moveable, the same may more easily pierce out of the glandulous kernels of the Liver through its smallest Passages to the roots of the Hollow Vein and with the Blood to the Heart; chiefly, if the Passage of Choler to the Gut being provok'd is more narrowly Contracted or sometimes also Obstructed by the same Choler more spiritous; wherefore the assault being made to the Liver, Choler may persist in the same, its ordinary, though great way, towards the small Gut being neglected.

48. For it may come to pass, that, if the Passage of Choler to the Gut be not wholly obstructed, it may at least be straitned by Phlegm made more viscous chiefly after a grievous Sorrow, covering it any way; or the same Passage may be irritated to a more strait contraction of it self by Choler made more Spi-

ritous, and therefore turgid and effus'd out of its Bag; because of which a free passage to the Gut is deny'd it, and therefore almost all of it is carri'd upward to the Liver through the Passage of the Liver, anon being carri'd with the Blood to the right Ventricle of the Heart may be effervescent lets then usual with the Descending and Lymphatic Blood, and therefore may be more confus'd, then mixt with the whole mass of Blood, anon every where departing from the Blood may infect all the Parts with its colour, and render them less apt for a natural nourishment; wherefore either a Pining, or Dropsic may by degrees succede the Jaundice, unless it be soon cur'd.

49. And although I do not think that an *Obstruction* of the Passage of Choler is necessarily requir'd to breed the Jaundice, yet do I not see, why it may not sometimes occasion the Jaundice, whilst it is its cause by stopping Choler in its natural efflux into the small Gut, because Choler staying there may be alterd, and if it be lawful to say so, may grow spiritous both with a greater access of the Animal Spirit, and farther exaltation and attenuation of the parts constituting it.

50. This even thence seems to be evident, because that an exceeding Anxiety is wont to be felt by many in that right hypochondre (before they have the Jaundice) where the insertion of the Passage of Choler into the small Gut is observ'd to be, sometimes a grievous Sorrow, or the abuse of Phlegmatic Food preceeding.

51. By Sorrow All the Humors are wont to become glutinous and viscosous, especially in the small Gut, and indeed because of the Juice of the Pancreas thereby made more tart.

52. But

52. But whence-soever Phlegm becomes glutinous and viscous, the same is apt to cover and obstruct the Orifice of the Passage of Choler into the small Gut, and so hinder the descent and out-let of Choler; wherefore a Narrowness will be stirr'd up there by Choler putting forth its force against the noted Phlegm, and producing Wind out of it, whilst the remainder acting upon it self is attenuated, becomes Spiritous and at length stirs up the Jaundice.

53. From what I have already mentiond methinks I have found and describ'd no improbable manner and account of the breeding of the Jaundice without a necessary Obstruction of the Passage of Choler into the Gut, to wit the *encreas'd Thinness and Spiritousness*, and therefore *unaptness of Choler to be rightly and enough effervescent*; which I have therefore noted in Choler, because it is observ'd then not so much to be mixt, as confus'd with the Blood.

54. Let us further see, whether the usual and fore-noted Symptoms of the Jaundice may be deduc'd from its fore-assign'd Cause; lastly, whether its noted Cure agree with the same?

55. The Cause of a compressive Pain of the Heart is the same, which I said in Sect. 52. was the cause of Anxieties rais'd about the lower region of the Ventricle in the small Gut, Glutinous Phlegm being there gather'd and in part rareti'd into Wind, stretching open, vexing and pressing the Containing Parts.

56. The Gripings in the right Hypochondre are to be ascrib'd to an Acid Humor of the Pancreas less broken and so more pure by Choler meeting it less, and putting forth its harm more potently, and pricking and griping the Sensible Parts.

57. The Excrements are less di'd then is wont both by Choler more sparingly approaching it and by the same

less effervescent, and therefore carrying less of its dying parts to colour them.

58. *The Sick have less motion to Stool* by reason of the same Cause, and Choler less sharp.

59. *The Urine is obscurely Red* by reason of plentiful and deeply colour'd Choler mixt with it.

60. *A different Yellow Colour arises in all* but chiefly the most tender part of the *Skin*, such as is that of the *Face, Neck, Hands*; yea in the whole *Flesh* from the same Choler less effervescent also in the *Heart* by reason of its encreas'd Spiritousness, and more intire Union of its parts, therefore less mixing it self with the *Blood*, and rather only confus'd with it, and therefore adhering every-where to the noted Parts, while it flows through with it, and colouring them with its Yellow colour sometimes more pale, sometimes more obscure, and sometimes inclining to greenness.

61. When the Jaundice declines an *Itching is felt in the Superficies of the Body* by reason of an effervescency every-where rais'd again and somewhat sharp vapors thence breaking forth, and mildly gnawing the sensible Parts. For it cannot be, but; that a more potent Effervescency, then was before, of Choler every-where at its meeting with the Juice of the *Pancreas* and *Lympha*, yea with the *Blood* it self more sour then is wont (which I remember I have observ'd in the dissection of one dead of the Jaundice) should be stir'd up after that it is corrected by the use of convenient Medicins, not only that which is in its Bag, in which much of it is Gather'd, but also in the Universal mass of *Blood*, with which it is confus'd, as also with all the containing and solid Parts, to which it adheres; by which therefore Vapors somewhat sharp may be rais'd, which being carri'd to the

the sensible Parts, and especially the Skin do there cause an Itching.

62. What is afore-said may be confirm'd more by the Cure of the Jaundice, which is not to be neglected, but rather hastned, because commonly a Cachexie, and Dropsie, or Deadly Pining succeeds it.

63. The Cure of the Jaundice may consist here in that 1. the more Remote Causes, Sorrow of Mind, the abuse of Viscous Food, or of Stronger Drink be remov'd. That 2. the Mean Causes, Glutinous Phlegm covering, or obstructing the Passage of Choler, as oft as it has place, or any kind of Poison changing and vitiating Choler, be corrected and carri'd out. That 3. the nearest Cause, Choler corrupted and vitiated, to wit over-Spiritous, and rendred more unfit for a right Effervescency be amended, and again carri'd down to the Gut. That 4. lastly, the ill-favour'd colour of the Skin be Separated, and the natural Colour restor'd.

64. 1. Sorrow of Mind is overcom'd and remov'd by rightly reasoning about any troublesom matters, and by confirming, and hardning the Mind to bear and suffer stoutly any adversity.

65. The abuse of Glutinous Food is by degrees to be chang'd, and in its stead other Food less Glutinous is to be us'd; therefore Fishes and especially Sea-Fish is to be shund; as also the extreme parts of Living Creatures: and somewhat Sharp and Aromatic Sauces are to be us'd, Mustard, Horse-Radish, and such-like that correct Viscous Humors; whither Volatil Salts so oft commended by me are to be refer'd, and added to ordinary Drink, but most commodiously to Wine, and us'd most profitably at Dinner and Supper; although they may be also taken at any other time.

66. Stronger Drinks are to be daily diminish'd, and at

at length wholly to be omitted, and before all others the Spirit of Wine: Yet must we allow a little Wine of good age and somewhat sweet, and so somewhat fat to those that are accusomd for reasons to be mentiond anon.

67. II. I have oft taught that *Glutinous Phlegm* may be *Corrected and Cut* with Aromatic and Volatil Salts, whose use I also again commend.

68. When it is in part corrected, or to be corrected by the same means, and Medicin Phlegmogues oft before mentiond and prescrio'd will educe it: yet we will add a Form here of an altering and purging Decoction, by the help of which or of one like it us'd in time, I have oft in a short time Cur'd People of the Jaundice.

Rx. *The Roots of Madder, Celandine the Greater, Smallage, of each ʒ ss. Broom-Flower M. ss. Seeds of Columbine, Parsley, Anise, of each ʒ ii. Crude Tartar ʒ i. ss. Boil them in as much as suffices of an equal quantity of White-Wine and pure Water, dissolving in ʒ xx. of what is straind the Syr. of Diacnium, of Succory with Rhubarb, of each ʒ i. ss. M.*

Let the Sick take twice or thrice a day so much of this Decoction, as moves him to go to Stool twice, or thrice, and he void Choler together with Phlegm.

69. As oft as the Jaundice is bred by the *Poison of a Viper*, or any other whatsoever, so oft all Sudorifics abounding with a Volatil Salt do conduce to *Correct and Expel it*, as being such as satisfie to both Indications; nor is Treacle here mentiond without cause, containing the Troches of Vipers in it, and several other things prepar'd of Vipers, abounding with a Volatil Salt.

70. Hither relates Diaphoretic Antimony taken to

xv Grains, and which is much better Mineral Bezoard taken to \mathfrak{D} \mathfrak{ss} . in any Liquor.

71. Hither belongs the Volatil Salt of Harts-Horn, or any made out of any part of a living Creature by Distillation, and if it be more potent sometimes us'd to v or vi drops or grains in a convenient Liquor. For Example;

Rx. *Old Treacle* \mathfrak{D} ii. *Mineral Bezoard* \mathfrak{D} \mathfrak{ss} . *Salt of Harts-Horn* 4 drops. or *Sp. of Salt Armoniac* v drops. *Syr. of Red Poppies, Fenel-Water,* of each \mathfrak{z} \mathfrak{ss} . *Carduus-Water* \mathfrak{z} i. M. for a Draught to be taken at once; which being taken, let the Icteric Person be meanly coverd, wherby a Sweat may be promoted.

72. If the Sick had rather take a more liquid Sudorific at times and by Spoonfuls, and so by little and little expect a Sweat, let him oft use the following Mixture, by the help of which a mild Sweat may be stir'd up.

Rx. *Fumitory-Water* \mathfrak{z} iii. *Simple Treacle-Water* \mathfrak{z} i. *Tincture of Saffron* \mathfrak{z} ii. *Laudanum* 4 Grains. *Salt of Harts-Horn* \mathfrak{D} i. *Mineral Bezoard* \mathfrak{z} \mathfrak{ss} . *Syr. of Carduus* \mathfrak{z} i. \mathfrak{ss} . M.

73. If the Form of a Decoction please any better, the following Decoction or one like it may be prescribed for him, which

Rx. *The Root of Vipers-Grass* \mathfrak{z} i. of *Master-wort* \mathfrak{z} \mathfrak{ss} . *the Root of Juniper-Wood* \mathfrak{z} ii. of *Sassafras* \mathfrak{z} \mathfrak{ss} . *the Leafs of Carduus, Scabious, Scordium,* of each M. i. *Juniper-Berries* \mathfrak{z} ii. *the Seeds of Columbine, Nettles, Shavings of Harts-Horn,* of each \mathfrak{z} iii. Boil them according to Art in pure Water dissolving in \mathfrak{z} xxx. of what is strain'd *Syr. of Carduus* \mathfrak{z} iii. *Treacle-Water* of any kind \mathfrak{z} i. \mathfrak{ss} . *Salt of Tartar Vitriolated* \mathfrak{D} ii. M.

Let

Let the Sick take as much of this Decoction together or only at times, as is requir'd to drive forth a sweat mildly; which afterward not coming forth, Urin is voided plenteous enough, which likewise is wont to help.

74. III. The *deprav'd and vitiated, and too Spiritous Choler of such as have the Jaundice may be Amended chiefly by Oily and Fat things*, by the help of which the aptness of Choler for a right Effervescency seems moreover to be restor'd.

75. So I have cur'd several, and seen many cur'd of the Jaundice by the help of *Hemp-Seed* alone boild till about its cracking in Cows Milk also fat, and then strain'd, and taken twice, or thrice a day to v or vi Ounces, as I mention'd before in Sect. 10.

76. So I have several times cur'd the Jaundice happily by any *Sope* about 3 i. being dissolv'd in hot Milk, and sweetned with a little Sugar, us'd twice, or at least once a day after I had premis'd Medicins which were mention'd before in Sect. 68.

77. I did indeed formerly think that *Sope* thus far profited in curing the Jaundice, in as much as by its Lixivial Salt it dissolv'd the Obstruction in the Passage of Choler into the Gut; which seeing it cannot be said of *Hemp-Seed* curing the same Disease happily, I now am perswaded *Sope* conduceth upon a two-fold account, both by reason of its Lixivial, but Fixt Salt, of which it is made; and by reason of its fatness or Oil, with which it is prepar'd.

78. By reason of its Lixivial, but Fixt Salt, in as much as it being joind to Choler corrupted according to its encreas'd Spiritousness doth diminish, and correct its over-Volatilness and Spiritousness, by assuming into it self some part of a Volatil Spirit abounding in it.

79. By reason of its Fatness or Oil, but thick, and in no wise Volatil or Aromatic, by the help of which it blunts the sharpness of the Volatil and Spiritous Sake ruling in Choler.

80. And by this double Experiment of the Jaundice cur'd by Sope and Hemp-Seed it seems to be evident, wherein its chief Cure consists, and from which, or which kind of Medicines it may and ought to be hoped for, and expected.

81. For the confirmation of this mine Assertion, I produce *Saffron* familiar in the Cure of the Jaundice, and which seeing the Fat is commended, upon that very account it favours mine Opinion; for *Saffron* is easily joind to a Volatil Spirit, by the help wherof there is made an excellent Tincture, and Extract; by which seeing that besides the Animal Spirits are wont to be brought to rest, and tranquillity, yea perhaps to sleepiness, sleep succeeding both mild, and sometimes deep enough, the whole Matter becomes so much the more manifest.

82. *Opium* it self, the most potent Drowsie Allayer of the Animal Spirits, is Oily and Fat, giving them a slow and difficult Motion, yea almost taking it away.

83. *The Volatil Spirits therefore may be forc'd and bound by Fat and Oily things, and brought to rest and tranquillity*; whence it seems to be evident, if as oft as the Animal Spirits joind to Choler in too great quantity, or exalted in it, that is, strengthened in their Power and Efficacy, do breed the Jaundice by making it more Volatil, and movable, so oft the same Jaundice is to be Cur'd, its noted volatileness and moveableness being overcom'd by Medicines that are Oily, and do mildly procure Sleep.

84. This same seem the fixt and Anodyn Sulphurs
of

of Minerals, and Metals, mildly fixing and quieting the Volatil Spirits to confirm, being not without cause much esteem'd by the more Skilful Chymists.

85. The same *Choler* more or less corrected is again to be deduc'd to the small Gut by Chologogues, chiefly by the most commonly us'd *Rhubarb* taken any way; wherefore I again mention the Decoction prescrib'd in Sect. 68.

86. IV. The ill-favour'd Colour of the Skin sometimes Yellow, sometimes of an obscure Green in the Jaundice is of its own accord, and by degrees lost, and abolish'd, but is sooner remov'd by subtil Sudorifics, having a Volatil Salt in them, whether a mild Sweat, or none follow. For it matters little, whether Sweat break forth then also, or no, seeing that this *Choler* abiding in any Parts against Nature may be cleans'd by the said Volatil Salts apt to promote a Sweat, and may be driven forth with insensible transpiration.

87. For Example, Let the Party Sick of the Jaundice, whose Excrements are of their wonted Colour, whose Appetite is restor'd, whose Urin is less dyed with a red Colour, whose golden Colour in the Skin is no more encreas'd, but rather a little less'd; let him, I say, use often in a day one Spoonful of this following Potion, by which if a Sweat breath forth, a perfect Cure may be the sooner expected; but if more of a red Matter, and a little after settling be rather sent forth by Urin, the removing of the vicious Colour from the Skin must be expected more slow, yet as good.

℞. Water of Grass, Wormwood, of each $\frac{3}{4}$ ii. Tincture of Saffron $\frac{3}{4}$ iii. Sp. of Salt Armoniac 30 drops. Mineral Bezoard $\frac{3}{4}$ ℥. Laudanum 4 Gr. Syr. of Fennel $\frac{3}{4}$ i. M.

CHAP. XLVII.

Of the Motion of Choler to the Blood through the Liver Deprav'd.

1. **A**Ccording to the Ingenious Observations of that Famous Malpighius about the true place of the Separation of Choler (which I approv'd of in Chap. 44.) I judg'd in Sect. 16, &c. of the same Chapter that Choler also was carri'd from the Glandulous Kernels up towards the Heart with the Blood tending thither from the Liver.

2. I suppose this Motion of Choler towards the Heart is seldom deprav'd, that is, remov'd, or turn'd, unless perhaps in the Disease Cholera; and why not so often therefore deadly?

3. This Rage or Violence downward of the Universal, at least the most of Choler, if ever it have place, may be ascrib'd, at least in my conjecture, to the vitious Effervescency of the Choleric parts of Blood rais'd in its Vessels by Summer-Fruits, or other such-like hurtful things taken, and carri'd to the Mass of Blood; because of which if not all, then sure the most parts will be hastned to the small Gut, and thence expeld with great force partly upward, partly downward without a convenient separation of it self in the glandulous Knobs of the Liver, unspeakable Anxieties of the Stomach and Gut concurring, by reason perhaps of a new Effervescency also vitious and most troublesome made with the Juice of the Pancreas in the small Gut.

4. This perverse and partly turn'd Motion of Choler cannot be Cur'd, unless the vitious Effervescency of Choler

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Choler both in the Mass of Blood, and in the small Gut be allayd, yielding to Opiats only, as I have said in Chap. 15. Sect. 34.

CHAP. XLVIII.

Of the Mixing of Choler with Blood in the Liver Deprav'd.

1. **T**He same *Choler* which is thought by me to be sent out of the Glandulous Knobs of the Liver toward the Heart seems first to be mixt with the Blood returning to the Trunc of the Hollow Vein through its Branches implanted in the Liver, wherby the Vital Effervescency between the ascending and descending Blood may so be more happily rais'd in the Right Ventricle of the Heart.

2. This mixing of *Choler* with Blood seems to be *deprav'd*, 1. when it is more loose and less. 2. When it is more intire and greater. 3. When it is unequal.

3. I scarce think that there can be at any time just no mixing of *Choler* with Blood.

4. I. I judg that *Choler* is less and more loosely mixt, and so rather confus'd with the Blood, when it is very Spiritous, as in the Jaundice (of which we have abundantly spoken in Chap. 46.) or very viscons, or earthy; whence it will be more difficultly, slowly, and so more imperfectly and less united to the Blood.

5. II. I judg that *Choler* is more, and closer mixt with the Blood, when it is more salt and sharp, and perhaps fatter: which seems to be confirm'd by Burning Fevers.

6. III.

6. III. *Choler is Unequally mixt with the Blood in the Liver*, when it is not *Homogeneous*, but *Heterogeneous*, consisting of divers parts, some *sharper*, some *duller*; which I think has place in the beginning of the Jaundice, and other cases as yet not enough observ'd; for we get different Choler oft enough out of the same Bag.

7. Whilst we here describe Diseases as yet not enough observ'd and search'd out by Practitioners, no wonder if their Signs be as yet uncertain, and several other things therto belonging be even now obscure, which sometime may be found and determin'd by the diligence of others: mean while we communicate thole things, which we hope may serve the more happy Wits.

8. I. We gave you the Cure of *Choler peccant in spiritousness encreas'd* in Chap. 46. Sect. 73, &c.

9. The Cure of *Choler peccant in viscosness encreas'd* may be most happily instituted with a continu'd use of any more sharp Aromatics, and Volatil Salts.

10. *Choler more Earthy and prone to be Lapidescens* may be cur'd with the *dulcis'd Spirit of Nitre*, some drops of it being for some time oft in a day taken in Wine, Beer, or any other Liquor.

11. II. *Choler too salt and sharp may be Cur'd*, sometimes by *Oily*, sometimes by *Viscous*, sometimes by *Spiritous*, sometimes by *Acid Things*, but more mild: which seeing they differ much among themselves, the Physician will need prudence, that, according to the diversity of the other Humors then being together in the Body, the most convenient Medicins be selected and us'd. Whence it is no wonder, if all Physicians have not always the same success, although they use the same Medicins, but not at the same time, as neither in the same Diseases, or

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Causes : whose determination depends on a Practical Judgment rightly administering every Remedy for every Disease in its own time, place, and measure.

12. *Choler peccant in Fatness encreas'd may be Cur'd both by more temper'd Acids ; and by a more pure Lixivial Salt of Wormwood, Carduus, &c. and a more earthy, Crabs-Eyes, Coral, Shells, &c. and so by Aromatic, but chiefly bitter Plants ; and by them that are mixt of both, Salt of Tartar Vitriolated, Salt of Tartar remaining in the Retort after the Spirit of Salt Armoniac is drawn off, and getting an excellent Virtue by the conjoin'd Spirit of that Salt, and such-like.*

13. III. If the Sick be urg'd in short Intervals by different Symptoms to be deduc'd from Choler and it only, and therefore it be very probably conjectur'd, that *Choler is Heterogeneal and Turgid with different parts*, great endeavour must be made in an anxious and dubious Case ; that the parts of Choler which harm Man being most declin'd from their natural state, be corrig'd, and amended potently, and mildly ; which is chiefly to be requir'd from the then most urgent Symptoms, and sometimes bringing sudden Death in its first, second, or third access.

14. I wish therefore, that as many as profess the Divine Name of a Physician, (that truly Devilish Envy, and therefore reproachful to Physicians, although in a manner proper to them being laid aside and suppress'd) would bestow profitable pains in searching out, and proposing the true Causes of the more obscure Diseases daily occurring in Practice, for the common good of Mortals ! For I doubt not, but that the many things as yet unknown perhaps to any, of the Nature and Usefulness of Choler may by degrees come to light, God prospering liberal and ingenious Spirits

Spirits. I at least do here sacredly profess and testify before God, that I have for many years taken pains incredible to the most of Men, whereby I might attain to the Nature, and Benefits of Choler in Man's Body, and most profit both the Sick, and then afterwards mine Auditors according to those things, which are given me from Above : in which my Heart void and free from desiring any vain glory, and so quiet, and assured of a good event even now, rejoyceth in the midst of the many unjust Slanders, Contradictions and Calumnies of several.

CHAP. XLIX.

Of the Preparation of the Glandulous Lympha in the Conglobated Glandul's deprav'd.

1. **E**Xperience confirms that *Lymphatic Vessels* come from every Conglobated, but not so from the Conglomerated Glandul's : Wherefore I think that *Lympha* is prepar'd in them, and that partly from the more Acid part of Blood severd in the mentiond Glandul's from the rest of the Mass, partly from the Animal Spirits carri'd through the Nerve to Them, and mixt with it.

2. But although I think the more Acid part of Blood is the chief Matter of Lympha, yet do I not think that purely of it self, but diluted with Water serves for this use : which then I at length call Impure, when moreover another part of Blood being mixt meets the same, and renders Lympha less Acid, or Viscous, and sometimes perhaps somewhat Salt.

3. For as the Serous part of Blood is naturally Insipid,

pid, yet in *Belgia* it is found somewhat Salt in the half perhaps of Men, at least as much as I could conceive by tasting the Blood let out of healthy or Sick People; so it should not seem a wonder to any, if in the same place also different *Lympha* be prepar'd: For an *Acid Spirit* is very hardly sever'd from a *Lixivial Fixt*, but more easily from a *Volatil Salt*; such a *Volatil Salt* I indeed incline, to believe is contain'd in the laudable serous part of Blood out of laudable *Choler*: In which same serous part of Blood, I suppose an *Acid Spirit* occurs to afford Matter for *Lympha*.

4. As therefore the laudable serous part of Blood may be in the Body, or the same may be variously chang'd by External Causes, Air, Food, &c. or Internal, as, the Motion of the Mind, or Body, Watchings, &c. so also *Lympha* may be bred out of it sometimes more Sour, sometimes a little Salt, sometimes more Diluted, and more Watry, sometimes more Viscous, &c.

5. As again the Animal Spirits may be Plenteous, or Few; Pure, or Impure in the Body; and Their Motion to the Conglobated Glandul's may be Free, or Hindered; so *Lympha* may thus far be bred not a little different.

6. As lastly the Conglobated Glandul's themselves may occur in the Body either Whole, or several ways ill-affected; even so by the fault of them the Separation both of an *Acid Spirit* from the Blood, or from its Serous part, and the Mixing of the same with the *Volatil* and *Animal Spirit* may be divers.

7. Whence any may see how many ways various kinds of *Lympha* Vitiated may arise, all which to prosecute and reckon in order in a new Matter would be tedious, and perhaps impossible.

8. Let

8. Let it therefore suffice for the present that we noted the Fountains of Lympha Vitiated, and handle the kinds observ'd in practice, and to have design'd the manner of Curing them.

9. The Preparation therefore of Glandulous Lympha may be Deprav'd, 1. When it is bred *more Sparing*.

2. When *more Plenteous*. 3. When several ways bred *with a vitiated quality, more or less Sour* then is naturally, and sometimes a little Salt, or Glutinous, and if any more Depravations of Lympha shall be observ'd at any time.

10. Seeing that all Lympha is carri'd through its proper Vessels, therefore call'd Lymphatic, to wit, its Thoracic Trunc so call'd to the Descending Blood, and with it to the Right Ventricle of the Heart, wherby it may there stir up a Vital Effervescency with the Blood Ascending, and di'd with Choler, I even now suppose that Lympha is requir'd to be in a *notable quantity and somewhat sour*.

11. This *Quantity of Lympha* ought to answer in due proportion to its opposit, wherby a laudable Effervescency may arise; whence if *the quantity of Lympha be greater*, Choler will be oppress'd, and a less and weak Effervescency will arise, and the Pulse will thus far be felt less; but if otherwise *the quantity of Lympha be less*, Choler will then be more efficacious, and the Effervescency of Blood greater, and the Pulse will thus far be felt greater.

12. That which the greater natural quantity of Lympha doth, the same doth its *encreas'd Acidity* more potently effect; as its *diminish'd Acidity* doth the contrary.

13. Seeing these things are of great use in the practice of Physic, they are worthy to be attentively weigh'd by all Physicians, and call'd into practical

use. For so by little and little many things in the Art as yet most obscure and confus'd may be illustrated, and most commodiously explain'd: to bestow which benefit on their Friends, Selvs, and Relations, I heartily exhort all Physicians of excell'g Wit and Judgment.

14. Good God! how oft are the most Learned, and Experienc'd Physicians puzzled when a true Reason is to be rendred of a little, and weak Pulse so oft observ'd unexpectedly in the Sick! how oft they fly to Nature oppress'd, or deficient, or to occult qualities, or malignity, wherby open Ignorance is hid among those that are ignorant of the Matter! From which darkness of hurtful Ignorance that at length a Health-giving Light should arise to all Men, I have not shund according to my power to take huge and envi'd pains even in this Business, which forreign and succeeding Physicians, will own, and mention more then my Contemporaries for Reasons enough known to their Consciences, and not unknown to the Prudent.

15. If a more sparing, or plenteous, more or less acid Lympha doth not a little change the vital Effervescency of Blood, no small change likewise is to be expected from the same when a little Salt, or Viscous; for thus far it may be hindred, whence a notable change may happen in the Pulse, and the Life be oft in danger.

16. *The breeding of more sparing Lympha may procede especially from a more sparing use of more Liquid and somewhat Sower Food, and Sauces, from which without doubt Lympha has its rising.*

17. *The Generation of more plenteous Lympha may be ascrib'd to a more plenteous use of them.*

18. *The Preparation of more sower Lympha is to be*

be requir'd from a frequent and oft using of *Sowr Sauces*, or *Medicins*, yea Food. For if Lympha according to Nature be somewhat *sowr*, if the Juice of the *Pancreas* according to Nature be somewhat *sowr*, each Humor is necessary and useful to an happy Life, like as the consuming of each daily, needs to be repair'd, which is to be done by Food; therefore Food also containing in it *Sowr Particles*, and thus far more or less Acid should be requir'd; let none expect all Acidity from Sauces, or Medicins.

19. Little *Animal Spirit* found either in the whole Body, or at least carri'd to the *Conglobated Glandul's*, and therefore less tempering Lympha, and leaving it more Acid may be a cause why Lympha is more Acid.

20. The breeding of Lympha less Acid may be expected from the *seldom*, and *sparing use of sowr Food, Sauces, and Medicins*: as also by the *Animal Spirits* abounding in the Universal Body, at least abundantly driven forward to the *Conglobated Glandul's*, and there making the Lympha more mild, and less acid.

21. Lympha may be bred somewhat Salt by a more frequent, and over-use of Salt Food, or seasoned with Salt, or Pickle, or dri'd in the Smoak, as also of such-like Sauces; with which many of the *Dutch* too much indulge themselves, being more negligent of laudable Health. Which Evil they who make a long Voyage by Sea cannot shun, being forc'd to use Flesh, and such-like seasoned with Salt.

22. The extreme parts of Living Creatures, to wit, their Heads, and Feet, and the most of Sea-Fish, if they be oft and much us'd breed Lympha more Viscous, as also any Food devour'd in too great quantity, and therefore not enough fermented in the Stomach, yea the rather therefore having an hurtful toughness, and

making such-like Chyle, and hence Blood, and anon the other Humors in like manner such.

23. If any other Depravations of *Lympha* be at any time observ'd, their Causes also may without great difficulty be sought out both from Food, and from the other Non-Natural Things more or less peccant. Of which those things which we have oft mention'd before, may and also ought to be transferr'd hither, whereby this Doctrine may become more evident.

24. Seeing it is not yet enough known what *Constitution of the Conglobated Glandul's* is fitted to breed laudable *Lympha*; I have nothing now to add of its Depravations.

25. The *Figure of Pores* undetermin'd and yet very pleasing to its Authors, doth not satisfy my Mind desirous of Truth, not only not prov'd by forcible Reason, but not so much as ever made probable by any by manifest Experience. For that which is said by many of solid or dry things sent through a Sieve having Holes of a different shape, doth nothing urge as to liquid and moist things; but neither is it true as to solid Corpuscles, which are carri'd equally through round Holes, if they be Spherical, or Cylindrical, or of any other oblong and round Form; that I say not now any Corpuscles, of whatsoever Figure they be, may pass through the Holes of any Figure, when they are less then them. But take or say for granted according to pleasure I know not what Figures of Pores likewise feign'd, because determin'd by none in the Parts or Bowels of our Body, through which Figures according to all the parts of Blood, and Particles of the Parts of it fluid, and continually flowing through insensible little Arteries, and Veins some Particles may pass through, more may be stop't in the Passage,

Passage, whether this be not to obtrude new Chimeras, instead of things sought out, to be believ'd by credulous Men, let Judicious and Ingenious Men judg.

26. Wherefore they who in things obscure and hid from the External Senses, do explain the changes made in our Body according to Chymical Operations evident to the Senses, although even so they remove not all Difficulties seem to me, whom I therefore follow, to Philosophize more aptly, and to the purpose in Natural Things: yet do they bring more Light to our Darknèss, then the others, who, however they use sensible Similitudes, yet do not use such, as do enough square with those things, which come to pass in our Body.

27. And that I may candidly speak, what I think and require in their Opinions they bind up Natural Changes into too strait Bounds, whilst they adhere to Affections of Qualities alone, not enough weighing that the Affections of Qualities are far more and much different from the former, according to which the mentiond changes come to pass in Natural Things. Whose Nature, Essence and Diversity, yea manifold manner of acting of the Qualities, although it be very hard to attain to with the Senses or Mind, and to explain clearly, and distinctly with other things, yet should not Ingenious Persons despair of the good success, but rather try with importunat Labour this Matter as yet hid in many things, whereby true Glory may be given to the Inventor, and the Public Good be promoted.

28. Would God give me more leasure then I have hitherto had, I my self would try my Fortune now in mine elder years, not doubting, but that I should detect and observe many things by this both great and pleasant

pleasant Labour, which would prepare and make a more easie way for others proceeding farther. For I now have some things, which for want of leisure I cannot commit to Paper, and communicate them to my Neighbour. But these and many other things depend on Providence, and Divine Aid, without which we cannot, nor do perform any thing laudable.

29. And although, to return to my Matter, we have not as yet obtained the exact Constitution of the Conglobated Glandul's, yet let us add a little of their Depravations, because of which the breeding of Lympha is oft, and not a little deprav'd. At least we intend here to mention a *Tumor*, and *Hardness*, as also *Inflammation* of them manifest to sense, and oft together concurring.

30. A *Tumor*, or *encreas'd Bigness*, and *Hardness*, and *Inflammation* of these Glandul's appear to Sense even in Creatures alive, (for after Death they may also be noted lying hid) both in the Jaws, call'd the Tonsils, and in several parts of the Neck, or in other places in no wise coverd with much Fat, or Flesh, where their noted Depravations are known sometimes by Sight, always by Touching, or by the Sense of Heat.

31. A Tumor of the Glandul's is to be distinguished from their Hardness, seeing that there may be, yea there is oft a Tumor without Hardness, and Hardness without a Tumor : although Hardness is oft joind to a Tumor.

32. The Conglobated Glandul's swell, both when they are nourisht, and encreas'd more plenteously in the best state, and when they heap together the Blood continually sliding thither beside Nature into their Substance : which is the easier dispers'd through it
softer

Softer and more flaccid, then through the Substance of more firm and solid Flesh.

33. Blood is collected beside Nature in the Conglobated Glandul's because of its Impediment put to the reflux, and chiefly an Obstruction in the Capillar Veins, or Channels of the Arteries, and interpos'd Veins, more frequently happening by Phlegm growing together, more seldom by Blood coagulated.

34. For as oft as all the Humors and chiefly Phlegm, together with the Blood in the Body become more loosend and fluid, yea are more abundantly every way either by the Air hot both naturally, and by Art; or by Food, or Sauces either Spiritous, or Aromatical, or abounding with a Volatil Salt; or by the Motion of Body, or Mind, especially vehement Anger; or by Watchings; so oft coldness of Air, or Water coming upon them, or Food, Sauces, or Medicins actually cold being us'd, or otherwise endued with a coagulating force, or the Body being compos'd to much rest, or an extreme Sorrow, or panic Fear unexpectedly oppressing Men as both Phlegm, and Blood is wont to be Coagulated in the other parts, so in the Conglobated Glandul's; whence they being made unfit for motion do stick in the Vessels, or Channels between, and stop the Blood flowing thither, that it cannot go farther through the ways hindred, which being dispers'd through the next substance of the Glandul's distends the same into a greater bigness, that is, a *Tumor*.

35. The same humor if more nearly fastned to the substance of the Glandul's, or becomes more solid and compact after the discussion of its more fluid and soft parts, breeds an *Hardness* in the Glandul's.

36. The nam'd Blood when stop'd in its Vessels and Passages, or effus'd out of the same into the substance

stance of the Glandul's, breeds an *Inflammation* frequent enough, and apparent in the Tonsils.

37. As oft as the Conglobated Glandul's observable about the *Plexus Chorooides*, in the side-Ventricles of the Brain and elsewhere are ill-affected, so oft a Stoppage in the Head uses to follow ; which urging the Lympha that is bred becoms sowerish-Salt, and such is tasted in a *Coryza*.

38. Whence we may probably conclude, what way soever the noted Glandul's are then hurt, that Lympha declines from its natural State and Quality, and is bred sowerish-Salt : seeing that their internal Superficies and Skin of the Face corroded by it flowing down, not only through the Nostrils, but being carri'd or distilling every way within the Body, sometimes lighter, sometimes more grievous Pains are bred, to wit, as its Depravation is lighter, or more grievous.

39. These Pains as they are commonly ascrib'd to *Catarrhs* not enough explain'd, so they are more truly deduc'd from *Lympha* deprav'd, as has been said, effus'd out of its Vessels, and finding or making a way for it self by its Acrimony into the adjacent, yea sometimes remote parts.

40. From the same, Lympha deprav'd, and more sharp sliding down through the Jaws into the sharp Artery of the Lungs, and after an Excoriation by degrees breeding an Ulcer, a *Tisic* most commonly arises destructive to the most, as being commonly neglected of all in its beginning, when it is easily Cur'd.

41. I do not now remember any other evident Depravations of the Conglobated Glandul's, to which Lympha vitiated may be ascrib'd a cause ; otherwise,

if they be observ'd by me, God willing, I intend to add them.

42. As for the Cure of the noted Depravations of *Lympha*; if 1. *Lympha* be bred *more Sparing* in the Body, it may be encreas'd with a more large use of somewhat-Sowr Food and Sauces. To this end Verjuice, Vinegar, Juice of Citron, of Oranges, &c. may be us'd in Sauces. Among more grateful Fruits Cherries both sweetish-sowr, and more sowr Curranberries, Barberries, &c. Among Plants Sorrel, Wood-forrel, &c. Among Drinks Wine of the Meuse, or any other somewhat sowr, yet of good age. For new Wines should be shund, as also very tart Beer, seeing that Gripes are rais'd by them. Among the more Physical things, Spirit of Salt, and of Nitre, each dulcifi'd are convenient, being us'd with ordinary Drink.

43. If 2. on the contrary *Lympha* be bred *more Plenteous* in the Body, the Use of somewhat-sowr Food, and Sauces must be diminish'd, and in their stead sometimes more Spiritous, sometimes more Watry, sometimes more Aromatical Food, and Sauces and abounding with a Volatil Salt must be us'd as the Matter requires, that is, according to the singular diversity of Constitutions and Functions.

44. If 3. *Lympha* be bred *more Sowr* in the Conglobated Glandul's, its exceeding Sowness should be lessend and temperd rather, yea the Generation of it more Temperd should be procur'd chiefly by the Use of Volatil Salts prepar'd in a liquid Form, and taken together with the other Food daily in a mean quantity.

45. More Volatil Salts, both Single, and Compounded, may be us'd to this end according as the Industry and Felicity of Any shall be greater or less.

For

For the mentiond Salts differ very much among themselves both by reason of their Matter, and also manifold Preparation.

46. If any want the convenience of preparing Volatil Salts themselves, and so of inquiring into more grateful and efficacious Salts, let them use the Spirit of Salt Armoniac either pure, or mixt with other things, which the Sick may take to more, or fewer drops in Wine, Beer, or any other Liqueur at Dinner and Supper-time, and may continue for some time in the daily use of the same, till the ill Effects of more Sowr Lympha be wholly remov'd, and overcomd.

47. If the Sick had rather use his ordinary Drink more pure, and the Volatil Salt rather in a Physical Mixture: the next Form or one like it may be prescrib'd for him, and let him take a Spoonful of this Mixture oft in a day, even soon before or after Meat taken in.

Rx. Mint, Fenel-Water, of each ʒ ii. Aqua Vita of Matthiolum ʒ i. Sp. of Salt Armoniac 30 drops. Syr. of Mint ʒ i. M.

48. If 4. Lympha be bred less sowr, its acidity may be encreas'd by Sauces, or Medicins that have a notable acidity, and us'd in a large plenty, as, more sharp Vinegar, Juice of Citrons, and Sowr Pot-granats; the Spirit of Salt, Vitriol, and of Nitre. Oil of Sulphur prepar'd by a Glasse Bell, &c. any of which may be added to ordinary Drink, or any Julap. or Broths also, to a grateful acidity for the Sick, and be us'd daily so long, till signs appear of Sowness restor'd to Lympha.

49. And because Fools, while they shun one Vice, run into its contrary, and an abuse may easily happen in the over-use of Acids, whither most Men are

wont

wont to incline, they are diligently to be admonish'd, least they persevere too long in using Sower Spirits, and so more hurt, then profit themselves.

50. When the Acidity of Lympha is diminish'd and broken by the over-use of Spiritous Things, then their use is to be diminish'd by degrees, wherby the Acidity of Lympha will become more pure, and sharper.

51. If 5. Lympha be somewhat Salt; abstain from the daily use of Salt, or salted Food; which is to be tri'd by little and little, seeing that the most who are addicted to salted Meat are very hardly remov'd from their purpose, and evil Custom, which is as a Law.

52. If 6. Lympha be bred more Viscous, and therefore more slow, beware of much using both Fishes, especially Sea-fish, and the Heads, and Feet of Land-Creatures: yea also among Sauces any Aromatics, and abounding with a Volatil Salt are to be daily us'd, such as are the most Antiscorbutics, Scurvy-grafs, Mustard, both sorts of Radishes, both Garden and Water-Cresses, &c.

53. If 7. the Conglobated Glandul's be Viciated by the Errors in Diet mention'd in Sect. 29, &c. and Lympha be bred sourish-Salt as is said in Sect. 37. the harm of the Glandul's, as well as of Lympha is to be amended.

54. A Tumor of the Glandul's, and Hardness proceeding from Phlegm coagulated in its ways may be Cur'd by cutting and attenuating Medicins, and especially such as also move a Sweat, wherby that may be driven forth, which pierc'd from without through the Pores of the Skin, and other openings into the inward parts of the Body, or has affinity with it. To which end the following Mixture may conduce oft taken by Spoonfuls, the Body, when the Sick lies

lies down, being coverd to promote a Sweat meanly.

Rx. *Fumitory, Fenel-Water, of each* $\frac{3}{4}$ i. *℞. Simple Treacle-Water* $\frac{3}{4}$ vi. *Spirit of Salt Armoniac* 20 drops. *Mineral Bezoard* $\frac{3}{4}$ ℞. Or *Diaphoretic Antimony* $\frac{3}{4}$ i. *Syr. of Carduus* $\frac{3}{4}$ i. M.

55. By such a Remedy Phlegm coagulated in the Glandul's is both loosend again, and being made loose and movable, is remov'd from the place, in which it sticks beside Nature, yea is oft reduc'd again into its Vessels, and anon either wholly amended, and mixt with the Blood, or, when it cannot be amended, only confus'd with the Blood, and sometimes sent forth through the Pores of the Body with a Sweat, sometimes through the Vessels of the Kidneys, and Passage of the Yard with the Urin, sometimes through the Guts with the Excrements, and cease to do harm.

56. To the same purpose at least in part a Fuming with Carabe, Mastich and such-like may conduce when the Glandul's of the Head are ill-affected, being receivd in at the Nostrils and open Mouth with the Air inspir'd, and piercing to the inward parts, and not only loosening the Phlegmatic Humor sticking in them, but reducing the Glandul's into their former state, and fencing and corroborating them against the new Injuries of the Air.

57. By the same Fuming receivd on Cloaths the Superficial Glandul's may be wholly restor'd by a mild rubbing of the place: To which end the Unguent Martiatum, and that call'd the Compound Ointment of Marsh-Mallows anointed on the part affected may also be us'd.

58. If the Glandul's, and in special the Tonsils are troubled with an Inflammation beside their Tumor and Hardness, both the Phlegmatic Humor obstructing,

ting, and Blood either standing still in its Vessels, or effus'd into the substance of the Glandul's, and kindled, is to be corrected with Emollient and cutting mild Gargarisms, in no wise Astringent, but us'd warm : with which if it cannot be hindred, its Suppuration is to be promoted by Emollients, especially and mildly cutting Aromatics, and hence the opening of the Aposteme, and so effusion of Matter, and hence cleansing and consolidation of the Ulcer : of which see more in Chap. 40. Sect. 50, &c.

59. Let this following be a Form of an Emollient and mildly cutting Gargarism.

Rx. The Roots of Smallage, Marsh-Mallows, of each ʒ i. the Leavs of Mallows M. i. Raisins of the Sun ston'd ʒ ii. Boil them in Barley-Water, dissolving in tb i. of what is strain'd Syr. of Violets, of the Five Roots, of each ʒ ss. M. to be a Gargarism.

60. Instead also of a Gargarism the exprest Juice of Turneps roasted, or boild in a little Water may be us'd.

61. The Inflammation being Cur'd, if the Sick be not more negligent of themselves, the Substance and Constitution of the Glandul's before harm'd is to be repair'd by a Gargarism prepar'd of somewhat binding and less sharp Aromatics, us'd hot sometimes in a day. For Example take this following Form.

Rx. Bistort, Masterwort-Roots, of each ʒ ii. the Leavs of Speedwel M. i. of Sage, Red-Rose-Flowers, of each M. ss. Boil them in Barley-Water, adding to tb i. of what is strain'd Honey of Roses ʒ i. M. for a Gargarism.

62. The other Errors in Diet are to be shund, or, if they be inevitable amended by ways oft mentiond before.

CHAP. L.

Of the Motion of the Glandulous Lympha through the Lymphatic Vessels and Passage of the Thorax to the left Jugular, or Axillar Vein deprav'd: As also of the Dropsie of the Brest.

1. **I** Distinguish the *Glandulous Lympha* chiefly from that, which I suspect arises out of the Animal Spirits carried and retaining from the Muscles, and from other parts; with which it being confus'd goes forward through the same Lymphatic Vessels to the Passage Common to Lympha, and Chyle, and through the Universal Thorax placed at the Spine of the Back, and therefore call'd *Thoracic*, till at length all be unloaden into the left Jugular, or Axillar Vein, where being joind to the Blood, it descends with it through the upper Hollow Vein to the Right Ventricle of the Heart.

2. This natural Motion of Lympha through the Lymphatic Vessels, and Thoracic Passage may be deprav'd, 1. When it is wholly, or at least after a certain manner hindred. 2. When Lympha moves in another way, and to another place then towards the mentiond Veins.

3. If the Motion of Lympha through the Thoracic Passage be at any time wholly hindred, I judg the Sick cannot live long after it.

4. The

4. The Motion of Lympha through more, or fewer Lymphatic Vessels may be wholly hindered chiefly because of their Obstruction.

5. This Obstruction may procede from Glutinous Phlegm carri'd together with Lympha through the Vessels of the same, and growing together and Coagulated in them, and therefore sticking in them, and anon filling them up.

6. Glutinous Phlegm is wont to be carri'd through the Lymphatic Vessels, as oft as it especially that was in the small Gut is loosend or dissolv'd by any kind of the heat of Air, or a more vehement Motion of Body, or Spiritous, or Watry Drink chiefly warm, or hot, plenteously swill'd, being 1st of all confus'd with the Blood through the Lacteal Veins, and anon the Thoracic Passage, and afterward driven forward together with it every way, therefore also to the Conglobated Glandul's, and hence to the Lymphatic Vessels.

7. The same Phlegm is wont to be Coagulated in the Lymphatic Vessels more frequently by External Cold, Air, Rain, Water, or Snow also any way affecting the Superficies of the Body with troublesome Cold, and together Coagulating any fluid thing easily Coagulable in it in any place and forcing it to grow together.

8. I dare not assert nor deny whether or no as Blood so Phlegm doth Coagulate by a great and unexpected Sorrow or Terror; although it seems less probable to me.

9. The Motion of Lympha through the Lymphatic Vessels is hindered after a certain manner; both, when it is more Glutinous, and therefore more slow and unfit for motion, and, when those Vessels are in part prest, or straitned any other way.

10. As oft as *Lympha* stands still in its *Obstructed Vessels* and being more, and more gatherd *dilates* them and at length *bursts* them, so oft the same is pourd out into the next *Places*, or *Cavities* near them, and then *Lympha* is mov'd another way and to another place then it ought.

11. By this *Effusion of Lympha* through its *Vessels* distributed in the habit of the Body and obstructed, then burst into the next parts, several *Pains* and also *Tumors* are bred, commonly ascrib'd to *Catarrhs*: Amongst which they are not the least, which possess the upper part of the arm to the very shoulder, and sometimes also afflict the Neck; to which also they are to be referd, that resemble the *Sciatica* which remaining in the Buttocks hinder walking.

12. Some of these pains endure the parts affected to be coverd with several Cloaths, and be warmd by them; others are imbitterd by cloaths: whence they are more difficultly Cur'd, then the former.

13. They commonly arise from External Cold piercing into those parts first warm till they Sweat and oft laid bare in sleep, and producing various Pains, yielding only to divers Medicins according to the diversity of *Lympha* after *Phleem* is Coagulated in the Vessels of *Lympha*, and an Obstruction, anon a Bursting made in them.

14. For the *Lympha* which is more Sowr breeds pains more corroding, which may be allaid by Aromatic Oils and Ointments; but that which is more Salt like pickle, stirs up pains yielding to oils and ointments less aromatical, such as is the ointment of Poplars.

15. By this effusion of *Lympha* out of the lateral Lymphatic Vessels obstructed, and anon burst, and piercing into the cavity of the Erect through the

mem-

membrane that covers the ribs I judg the Dropsy of the Brest arises most commonly, if not always.

16. An Obstruction of the Lymphatic Vessels in the more inward parts of the Brest may be prevented, by bewaring 1. that the body do not wax too hot, and if this cannot be shund, 2. that the Brest being made bare it do not soon cool, and consequently Phlegm grow not together nor coagulate being dissolv'd and every way diffus'd potently in severall, and therefore in the Lymphatic Vessels.

17. The same Obstruction may be Cur'd, if as soon as may be, when its mention'd Causes have had place, and there is danger, least the noted evil be bred, an attenuating and cutting Medicin be taken together and at once, or at times, such as Sundry Treacle Waters made with the spirit of wine especially, as also other Aromatics do afford; Decoctions prepar'd of the woods Guajac, Juniper, Sassafras &c. Of the Roots of Masterwort, China, Salsaparilla, butter-bur, &c. Of the Leavs of Scordium, Carduus benedictus, Carduus Marix, Scabious, Dandelion, &c. Of the Flowers of red Poppies, Elder, Chamomile, &c. Of the Berries of Juniper, Bays, Elder, &c. Of the Seeds of Millet, Carduus, &c. Volatil Salts of Amber, Harts-Horn, &c. Diaphoretic Antimony, Mineral Bezoard, Crabs Eyes, &c.

For example let the following Mixture be us'd, as has bin oft said, to one or more Spoonfuls, till a Sweat break forth.

Rx. Fumitorie, Dandelion Waters, of each ζ ii. Simple Treacle Water, or Matthiolus his Aqua Vitæ ζ i. Spir of Salt Armoniac xxx. drops. Lsudanum iii. grains. Diaphoretic Antimonie ζ ss. Syr. of Carduus ζ i. M.

G g 3

18. If

18. If the Form of a Decoction please any better, let him use this following oft to ζ iii or iv, and being well coverd, let him compose himself to sleep.

Rx. *Salsaparilla*, *Smallage-Roots*, of each ζ i. the *Shavings of Guaiac*, and *Juniper-Wood*, of each ζ i. β . the *Leaves of Cardus Mariae*, *Scabious*, *Scordium*, of each M. i. *Elder-Flowers* M. β . *Milet-Seeds* ζ ii. Boil them according to Art in pure Water, adding to lb iii. of what is straind *Syr. of Red Poppies* ζ iv. M.

19. If the season of the year be cold, or the Sick abound with much Phlegm, ζ ii. of *Aqua Vita Masticholi*, or any other Aromatic Water may be commodiously added to the former Decoction, wherby it may serve for more Indications.

20. The viscosness and toughness of Phlegm, and hence of Lympha may be Corrected by the same already propos'd Medicins, to be taken but in a less quantity, and more seldom even when the noted Harm seems overcome: when there will not be need to urge a Sweat, but to amend Phlegm, and Lympha gradually only by altering them.

21. The Lymphatic Vessels burst, after that they are freed from the noted Obstruction by Medicins fore-mentiond, will easily be consolidated, as we see it happens in the Vessels of Blood; seeing that the proper Food of any part is indu'd with a faculty of conglutinating being more or less clammy or glutinous.

22. Pains arising in the Lims, and especially the upper part of the Arm, and most troublesome in the Night, after that the abundance of a Serous Humor, if there be any, is diminishd with Hydragogues, and Sudorifics, they may be remov'd by anointing the part grievd with the following Ointment.

Rx. The

Rx. The Ointment call'd Martium, Oil of Worms,
of each \mathfrak{z} ss. Oil of Amber \mathfrak{z} i. M.

23. If Pains be encreas'd by this Ointment or by
Cloaths only, use this following.

Rx. The Ointment of Poplars, Nerv Ointment, of each
 \mathfrak{z} ii. Oil of White-Lilies \mathfrak{z} iii. M.

24. If the same Pains affect the Hip, and chiefly
so possess the lower part of the Back-bone; that the
Body can scarce be stretcht out and move, the Balsam
of Sulphur made with the Oil of Turpentine will be
the best, if the part affected be anointed with a few
drops of it, wherby I have oft cur'd miserable Per-
sons in one Night.

25. The Dropsie of the Brest very difficult to be
known, though very frequent in these places, may be
Cur'd most safely, (after an opening and consolida-
tion premis'd of the Lymphatic Vessels obstructed,
that it may not longer be cherisht) a Sweat being con-
tinu'd, as well by the mentiond Medicins as by a dry
Stove, and so the Waters standing beside Nature in
the Brest, being by degrees empti'd through the Pores
of the Body: wherby if nothing be effected, and it
be certain enough that there is a Dropsie of the Brest,
I see not, why it may not be lawful to institute an
harmless Paracentesis by an hollow Silver Needle in
the Brest; for by such a small Wound there is no
danger to the Sick.

CHAP. LI.

*Of the Preparation of Spittle, as Deprav'd
well in the Upper as lower Conglomerated
Glandul's of the Jaws.*

1. **A**S Lympha in all the Conglobated Glandul's, so a peculiar Liquor is bred in all the Conglomerated Glandul's; which is not carri'd into Passages common to all, but peculiar to every one, and those ending in Cavities appointed to every one of them.

2. Two Passages call'd Salival or Salivarie from Spittle carri'd through them, empty themselves double on both sides into the Mouth, and arising from the upper, as well as lower Conglomerated Glandul's of the Jaws: that I mention not the infinite little Channels risen from such-like Glandul's and also open into the Mouth, and pouring out the Liquor they contain, first observ'd at least as far as I know by the most diligent and accurat Anatomist Nicolaus Stenonius.

3. I judg all Spittle proceeds partly from that part of Blood which is more glutinous then which serves the Lympha through the Arteries, partly from the Animal Spirits carri'd through the Nervs to the mentiond Conglomerated Glandul's.

4. I judg this Breeding of Spittle naturally Insipid and easie to be mixt with any Liquor is deprav'd;
1. When it is more Sparing. 2. When it is bred more Plenteous. 3. When it is prepar'd many ways peccant in sensible qualities.

5. Spittle is bred more Sparing, then it ought, 1. by defect

defect of its Matter, as oft as it is not suppli'd by convenient Food, such as Broths made of the Flesh of Brutes, Milk, more thick Drink, stronger Beer, Claret Wine, &c. seem to be the chief: or it is carri'd another way, whether it remain within the Body in a various Dropsie, or be effus'd without the Body in a Loofness, or an over-excretion of Urin, or Sweat.

6. 2. By the fault of its Ways, through which the Matter requir'd is carri'd to the said Glandul's, the greater Arteries, and sometimes also Nervs being cut asunder, obstructed, or prest; whence some Defect of Spittle at least must happen.

7. 3. By the Fault of the Glandul's themselves, when they are unfit to strein through, or admit the mentiond-Matter, or to change it and turn it into Spittle. Although it is not yet well known, how those Glandul's are affected and constituted according to Nature to do this Office.

8. On the contrary Spittle is bred sometimes more plenteous, (as it is known to befall certain Melancholic and Spitting Persons thence so call'd, and to some Sick People troubled with a voluntary Spitting, and that more abundant or sparing); 1. By reason of the abundance of Salivary Matter, sometimes from the large use of more Liquid Food, especially Wine a little sower; sometimes from a more sparing excretion of Urin, or a wonted Sweat.

9. 2. By reason of the largeness or multitude of ways carrying the Blood, and Animal Spirits to the Salivarie Glandul's; because of which more Matter to be chang'd into Spittle is carri'd to the said Glandul's.

10. 3. By reason of the harm of the Glandul's themselves that make Spittle, because of which more of the Matter of Spittle, then ought, is taken out of the

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the Blood, and chang'd into Spittle; although hitherto I cannot determin of what kind that harm is or may be.

11. That *Spittle* is sometimes bred *visions in the sensible Qualities*, as well proper, as (excepting Quantity, of which we have already spoken) common, its *Savour* sometimes *Salt*, sometimes *Sour*, sometimes *fulsomly Sweet*, sometimes *Bitter*, if that it do not procede from *Choler* rising up to the Mouth doth prove: Its *greater or less Glutinousness* or *Watriness* sometimes argues the same, and if there be any other Changes observ'd at any time, or shall be hereafter observ'd in its *Colour*, *Odour*, *Savour*, *Heat*, *Cold*, or such-like Qualities.

12. The *Salt Taste of Spittle* procedes without doubt from a *Salt Serous Humor in the Blood*, the harm of the *Salivarie Glandul's* perhaps also concurring, because of which they are less apt to remove from them, or to overcome that *saltness of the Serous Humor*.

13. So the *sour Taste of Spittle* is to be refer'd to the exceeding plenty of an *Acid Humor* both in the *Body*, and *Blood*; and perhaps moreover to some *Universal*, or at least *Particular Defect of the Animal Spirits* in the *Salivarie Glandul's*.

14. The *Tast of Spittle fulsomly Sweet* and being equal to, or exceeding the *Sugar of Lead* is to be sought in such a like *Serous Humor* whencesoever proceeding. For it is very difficult to explain exactly all the Changes of the *Humors* happening in our *Body* according to their almost innumerable Qualities, seeing we commonly know not what, or what kind of Food the Sick have us'd, and chiefly from what, or what kind of things the Savours, Odours, Colours, and other Qualities of our *Humors* are so wonderfully

fully alterd; and that indeed, at least in my Judgment, by reason of experimental (if I may so say) Chymistry neglected by the most, and Prejudices accounted of the most instead of Experiments, and Things taken for granted and imprudently, shall I not say impudently obtruded by others.

15. *The bitter Taste of Spittle* arises either from Choler belcht up, and for some time leaving its Relicks in the Mouth, and therefore for some time infecting all the Spittle; or, when such a belching of Choler has not place, perhaps from the same Choler being more in the Serous part of Blood, and mixt to the Matter of Spittle in the Salivarie Glandul's: however I doubt much of this latter manner, seeing that I scarce ever observd the Serous part of Blood bitter.

16. *More Glutinous Spittle* arises from Blood abounding with much Phlegm also glutinous; as more Watry and Fluid Spittle from defect of the same.

17. *A more sparing Generation of Spittle* to be ascrib'd; 1. *To the defect of fit Matter, and convenient Food, may be Cur'd* by a more liberal Use of the same: as the Dropsie being Cur'd as oft as its Matter of nourishment is spent or turn'd another away; as also the Loosness being Cur'd, when its Matter is evacuated through it; lastly, an over-efflux of Urin or Sweat being remov'd, when it happens by the fault of it. The Cure of these Diseases shall be set down elsewhere, and that in their proper place.

18. 2. *The Arteries or Nervi cut asunder* cannot be Cur'd, and the harm thence proceeding is not except slowly at least in part repaired; in as much as the other Arteries and Nervi tending to the same parts are commonly by degrees encreas'd, and so they at length repair the loss due to those that are cut in two.

19. We

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19. We have spoken and explaind how an *Obstruction and Compression of those Vessels* ought and may be Cur'd.

20. 3. When we know of what kind *the Harm of the Glandul's* is, by reason of which Spittle is bred more sparing, a fit Remedy for it will not be very hard to be found out : although, whilst both are as yet unknown, a prudent Phylician may chiefly use such Medicins outwardly, as are commonly call'd Strengtheners, which are the most of Aromatics: For Example ; the Ointment *Martiatum*, wherewith the Region of each Jaw may be anointed, in which the Salivarie Glandul's are plac'd ; whereby if the Sick receive benefit, that Observation may be noted ; and at another time in another or the same Sick Person, if he cannot bear fat things, a Fomentation may be prepar'd of Aromatic Plants, adding sometimes

**I my self have oft experienced this to admiration.*

the Spirit of Wine, and sometimes an excellent * Volatil Salt ; by the help of which also if the Sick get benefit, thus far the Observation may be useful both in curing others, and in searching out the natural Constitution and Harm of the Glandul's. So by degrees Man's Knowledg may be enlarg'd, and the Art of Physic daily perfected, not to be attaind unless with strenuous and iterated Labour.

21. A more plemuous breeding of Spittle, may be Cur'd, 1. By diminishing its Matter, and daily abstaining a little from more Liquid Food ; and by evacuating it by Stool, or with Urin or Sweats.

22. Among Purgers *Pblegmagogues* and *Hydragogues* mixt together, and often taken in a small quantity may conduce. For Example, let these following Pills be us'd twice or once at least in a week.

Rc. Pills

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R. Pills of *Mastic* ζ i. *Resin of Jalap* \mathfrak{z} i. Oil of *Amber* iii. drops. M. to be xx gilded Pills.

Let the Sick take three, or four, at Bed-time, that they may purge him twice or thrice at most.

23. Among *Diuretics* and *Sudorifics* Decoctions less ingratful may be proper to be happily us'd sometimes in a day, or instead of Ordinary Drink. For Example;

R. The Roots of *China* slic'd, of *Smallage*, of each ζ i. the Shavings of *Juniper*, or *Guajac-Wood* ζ ii. of *Sassafras-Wood* ζ ii. Raisins of the Sun ston'd ζ iv. Boil them in pure Water according to Art dissolving in ζ xxx. of what is strain'd, Syr. of the Five Roots ζ ii. Sp. of Salt *Armoniac* xxx drops. *Cinamon-Water* ζ i. M.

24. If any desire to evacuate Phlegm, and the Serous Humor by the same Medicin more ways, he may once or twice in a week dissolv ζ ii, or ζ iii. of our Hydragogue Electuary (as the Sick is easier or harder to work on, or as the Physician pleases to Purge him more or less) in ζ ii. of the Decoction before prescrib'd.

25. 2. The over-largeness of the ways that bring matter for Spittle, may be Cur'd chiefly by a Fomentation somewhat *Astringent* and mildly *Aromatic* made in Claret-Wine, and oft appli'd hot to the Jaws by a Linnen Cloath: By the help of which the more large ways may by little and little be straitned and strenghtned.

26. 3. When any Harm in the Glandul's is concluded by rational conjecture to concur also, although such an Harm is not as yet enough known, yet I think the foremention'd somewhat binding and mildly *Aromatic Fomentation* may be commodiously us'd, both Externally and Internally. For Example take this following Decoction. R. The

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Re. The Roots of Avena, Bistort, of each ʒ i. of Masterwort ʒ ii. of Select China ʒ i. of slic'd Licorice ʒ i. lb. Boil them according to Art in Claret-Wine, adding to lb ii. of what is strain'd Cinamon-Water, Syr. of Myrtles, of Red-Roses, of each ʒ i. M.

Let the Sick take ʒ ii, or iii. of this Decoction twice or thrice a day.

27. *The Saltiness of Spittle* may be remov'd as well by abstaining from much using of Salt Meat, as by amending the saltness of the Serous Humor by Crabs-Eyes, Coral, Pearl, Shells, and such-like things meanly calcin'd, and chiefly by the *Pills of Hounds-Tongue*, or of *Styrax* daily or every other day taken to ii, or iii. Grains.

28. *The Acidity of Spittle may be Cur'd* by the same, as also with Chalk, Dragons Blood, Blood-Stone, fixt, and especially Volatil Salts, seeing they alter and correct any Humor in our Body more mildly, although also more slowly, which is also the more to be commended.

29. *The fulsom sweetness of Spittle may be Cur'd*, perhaps by Shells and such-like things meanly calcin'd, as also Volatil Salts somewhat more sharp, yea by fixt Salts also, and Acid Salts sharp enough, lastly Salts joind with Acids, as the Salt of Tartar Vitriolated and such-like; although I have

have not hitherto us'd them to purpose, because I never had such a Case in hand, from whence to inquire more accurately into its Nature and Manner of Curing, and to form my present Conceptions.

30. *The bitterness of Spittle* caus'd by Choler rising up into the Mouth will of its own accord and by degrees

grees depart, if it be driven downward, and expel'd by Stool with a Cholagogue; yet a more obstinate bitterness may also be wash'd out, by washing the Mouth with somewhat sour Wine pure, or mixt with Water, instead of which also Vinegar may be us'd after the same manner.

31. If *Choler* remain more pure in the Blood, or its *serous part*, it may be diminish'd by mild *Cholagogues*, and the remainder is to be corrected by more temperd and more grateful Acids.

32. The *over-glutinousness* of Spittle may be amend'd both by taking in inciding Aromatic Medicins oft mention'd and prescrib'd, chiefly Volatil Salts us'd at Dinner, and Supper-time with a little Wine; and by such like kept in the Mouth, and anon after it is wash'd spit out; and by such-like Food cautiously omitted and neglected; and by tough Phlegm, if it be also peccant in encreas'd plenty carri'd out in part after a previous preparation of it, by *Phlegmagogues* mildly and slowly.

33. The *over-fluidness* and *watriness* of Spittle may be amend'd by often using Medicins more Glutinous, and sometimes a little Tart, such as are Medlars, Services, Quinces, &c. to which as the Matter requires Pills of Hounds-Tongue, &c. may be sometimes join'd.

CHAP. LII.

Of the Motion of Spittle into the Mouth and Gullet Deprav'd.

1. IT is easie for any to try and observ that *Spittle* of its own accord *flows into the Mouth* of every one though they think not of it, and may be drawn thither more plenteously as any shall please, and the same is anon *swallowed down*.

2. *This Motion of Spittle into the Mouth is deprav'd,*

1. When it is brought thither *more sparingly* or *difficultly*. 2. When *more plenteously*, or *easily*.

3. *Spittle flows more sparingly into the Mouth;*

1. Because of *its defect*, of which we spake in the former Chapter. 2. Because of *the Salivary Passages Obstructed*, or *Prest*, or *Cut* in two.

4. *Spittle flows more Difficultly to the Mouth*, because of *its Glutinousness*, of which we also spake in the former Chapter.

5. The same *Spittle* is *more Plenteously* carri'd into the Mouth; 1. Because of *its abundance*; of which also see the former Chapter. 2. Because of *the Salivary Passages more widened or enlarg'd*, wherefore Spittle stays not in them its due time, but flowing out continually makes way for the following Spittle of what sort soever, for the most part therefore more watry and fluid. This largeness and wideness of the Salivary Passages is caus'd oft by a *continual Spitting* accus'tom'd after an ill manner. For by how much the more or less any shall exercise any Function, by so much it makes the parts ministring to it either
more

more apt, or unfit to perfect the same more easily and here also more abundantly, or more difficultly and here also more sparingly.

6. *Spittle* is more easily carri'd into the Mouth by reason of its *thinness* and *fluidness* propos'd in the preceding Chapter.

7. The *swallowing down* of *Spittle* admitted into the Mouth is deprav'd, as oft as it either cannot be at all or not without great difficulty.

8. Both these Depravations happen especially because of the straitness of the Jaws, or Gullet, sometimes to be ascrib'd to a Tumor of the Tonsils, sometimes to the Quincie, seldom to a Tumor in the Gullet it self, or Flesh growing out of it: whence the Contraction of the Gullet, and thrusting of what are to be Swallowd down are with difficulty, if at all.

9. The Motion of the Gullet may also be deprav'd when it is troubled with a *Palsie* or *Convulsion*, or a *Convulsive Motion* frequent in a *Hypochondriac Suffocation*.

10. What was mentiond in the former Chapter of the Cure of several Depravations here nam'd, may thence be requir'd: as also from other places, which are or shall be set down there.

11. The *Salivarie Passages* cut in two cannot be Cur'd: but the Passages *Obstructed*, or *Prest*, may be cur'd chiefly by *attenuating* and *cutting Medicines*, us'd as well to wash as to Foment those parts.

12. The *Salivarie Passages* more open or wide, may likewise be Cur'd by washing the Mouth, and Fomenting the Jaws by a Decoction prepar'd of somewhat binding and mild Aromatics; as is describ'd in the former Chapter Sect. 26. But endeavour should also be, that the Sick would gradually uncustom

themselves from a continual Spittle got into an evil Custom.

CHAP. LIII.

Of the Generation of the Juice of the Pancreas deprav'd.

1. **WE** call the Humor prepar'd in the Conglomerated Glandul's of the Pancreas, and effus'd through the Passage of the same into the small Gut by the name of the Pancreatic or Melancholic Juice.

2. That the same hath great affinity with Spittle, but is of a somewhat sour Taste from it insipid, although soon sowing, we do no longer suspect to be distinguish'd, but affirm it for certain after the Ingenious Observation of Regnerus de Graaf, that truly industrious, and happy Anatomist, and formerly our dearly beloved Student not only made in Dogs, but in a Man, and its Juice collected.

3. The Juice of the Pancreas is therefore naturally somewhat sour in taste, prepar'd in the Conglomerated Glandul's of the part of Blood most like to it, and of the Animal Spirits; and flowing together continually out of the lesser Passages into the greater, and at length into the greatest and middle, for the most part single, seldom double, and hence into the small Gut.

4. The Generation of this Juice is deprav'd, 1. When it is bred more sparing. 2. When more plentiful.

3. When vitious in manifold sensible Qualities, in savour, odour, colour, glutinousness, &c.

5. This Juice is made more sparing; 1. By the defect of fit Matter in the Blood, because of Food containing

taining very little Acidity too long us'd, or because of it carri'd another way in the Dropsie, or effus'd out of the Body in a somewhat Acid Sweat, and by Urinal-
 so more sour; or in a Lienteric, and Colic Looseness. For that which is conjoin'd with Gripes, and arises from a sharp Acid Humor, is chiefly thought by me for the most part to procede from the Juice of the Pancreas more Acid, which although it be pour'd out of the Body, yet was it prepar'd in the Pancreas.

6. The same Juice is bred more Sparing. 2. By the fault of the Ways, and chiefly of the Arteries, through which Blood is carri'd to the Glandul's of the Pancreas, if it happen at any time that they be obstructed, or press'd.

7. 3. By the fault of the Glandul's of the Pancreas unfit to separate commodiously the somewhat sour part of Blood from the rest, and further so prepare it with the Animal Spirits into the mention'd Juice.

8. The Juice of the Pancreas is generated more Plenteous; 1. Because of the abundance of Matter made fit to breed it in the Body and Blood, and by such-like Food long and much us'd, and by the wonted Evacuations of somewhat sour Humors suppress'd.

9. 2. Because of the plenty and greatness of the Arteries and Nervs carri'd to the Pancreas; wherefore much Matter fit to breed the Juice of the Pancreas is carri'd thither.

10. 3. Because of the peculiar constitution of the Glandul's of the Pancreas favouring the breeding of much Melancholic Juice: Although here also we as yet doubt in determining and describing their noted vitious, as well as natural and laudable Constitution.

11. The Juice of the Pancreas is bred vitious in Taste; 1. When it is made too sour, and that then be-

cause of the over-use of *sour Food, Sauces, or Medicins*; and because of a delay of the *laudable Juice* made in certain of its lesser Passages obstructed, whence the same becomes anon more *sour*, and being again joind to the rest, infects it all at least for that time, and likewise makes it more *sour* then it is wont to be: as that is for the most part notably observed in the beginning of the Fits of Intermitting Fevers with Cold, the off spring of a more sharp *sour Humor*.

12. 2. When it is bred *less sour*, and indeed then because of a more sparing, or no Use of *sour Food, and Sauces*; and because of a frequent and plenteous use of things contrary to it, such as are Chalk, Crabs-Eyes, Pearl, Coral, and such-like oft mentiond, as also both fixt and volatril Salts; and because of much evacuation of an *Acid Humor* by Sweat, or Urin.

13. 3. When it is bred *Salt like Pickle*; by such a like *serous Humor* abounding in the Body, and because of Food seasoned with much Salt long taken, and by a troublesome and persevering stoppage of the Head, corrupting the laudable Humors into Humors Salt like Pickle, or such-like Lympha.

14. 4. When the same Juice is bred *Tart*, and that both because of such-like Food, and Medicins taken more plenteously or too long, and by an exceeding sorrow of Mind; and chiefly when unexpected, and a great unthought-of Terror.

15. 5. When the same Juice is bred *ill-savourd*, which chiefly happens, when there is a Corruption in the *Pancreas*, to wit, the making of Matter after an Inflammation, wherof when any is joind to the Juice of the *Pancreas*, then it gives it its ill savour.

16. 6. When the Colour of the same Juice being like *Phlegm*, or Water is chang'd into any other not like its natural Colour; which may happen, when
some

Some pure, or corrupted Blood is mixt with it, and doth more or less alter its natural colour.

17. 7. When the Juice of the Pancreas is made more *Glutinous*, and that because of much *Pblegm* like it being in the Body, and joind to the Blood, and then infecting the other Humors, and this especially with its viscosufness.

18. Seeing that more vicious Qualities of this Juice do not at present occur, let us procede straight-way to the Cure of the mentiond Depravations in its Generation.

19. A more sparing Generation of the Juice of the Pancreas may be Cur'd; 1. By using more abundantly Food and Sancers somewhat *sowr*, when this Evil happens for want of them; or by curing an *Acid Dropisie* or *Sweat*, or *Urin*, or a *Lienteric*, or *Celiac Looseness*, when it procedes from them; of which we have treated before, or yet may anon.

20. 2. By Opening an *Obstruction* of the Arteries, by cutting and attenuating Medicins oft already propos'd; or by removing their *Compression*, by freeing them from Bands or Tumors straitning their Cavity.

21. 3. It will be hard to tell how the harm of the Glandul's of the Pancreas, by reason of which its Juice is bred more sparing in them, may be Cur'd, seeing that we know not as yet the due Constitution of the Glandul's to prepare this mentiond natural Juice: yet because a somewhat-sowr Juice is separated, or made in them, I suppose Medicins mildly *Aromatrical* and chiefly *Volatil Salts* joind with somewhat-*Acid Liquors* may very probably be useful here; For Example, The Volatil Salt of Amber, the Salt *Armoniac* made more pure by a repeted Sublimation, and several others industriously prepar'd.

22. Where note, seeing that every Change that is to be expected of altering Medicins ought to be performed by degrees, the use of such must be continu'd for some season, whereby the desired success may be had, and here we must make slow haste.

23. This Juice *generated more Plenteously* needs for its Cure, 1. That the Sick *would omit*, at least *diminish the Use of Acid Food, and Sances*, as oft as the same occasion'd it, and hath afforded Matter for more abundance of the Juice : which now being in the Body *may also be diminish'd by Hydragogues*, as also *Sudorifics and Diuretics* : which will be so much the more beneficial, if an accustomed Evacuation of the Acid Humors of what kind soever be suppress'd.

24. Among Sudorifics and Diuretics I commend in this Case any that moreover *contemperat, dull, and concentrat an Acid Humor*, being oft mention'd and also reduc'd into Forms in this Treatise.

25. 2. If the *Arteries and Nerus* inserted into the Pancreas could be commodiously straitned (for they cannot be diminish'd) by Internal or External Remedies ; by a prudent, and most slow *straitning* of them to be expected only from *mildly Astringent Medicins*.

26. 3. If at any time the *Natural and Preternatural Constitution of the Glandul's of the Pancreas* should be known ; it is to be Cur'd by the Correction of it by Medicins *somewhat contrary to it*, which being as yet unknown, they that *mildly bind, and also concentrat an Acidity* may be tri'd perhaps even to find out each Constitution sometime, amongst which Blood-Stone, Dragons-Blood, Chalk, &c. excel ; which, as I newly said of all Altering Medicins, may be us'd for some time in a small quantity, and their success, and effects may be accurately observ'd by Prudent Physicians.

27. The

27. The preparation of a more Acid Juice may be Amended; 1. By daily diminishing, and sometimes wholly removing, at least for a time, the Use of Food, Sauces, and Medicins manifestly sour.

28. 2. By removing the Obstruction made by Glutinous Phlegm coagulated in the side and left Passages of the Pancreas, both by Medicins that drive it forward either into the small Gut only, or also out of the Body by Vomits, or Stool, and sometimes with the Urin, or Sweat. To which manifold end convenient Remedies are oft before prescrib'd, so that it seems needless to set down here those that have been so oft mentiond.

29. When the Juice of the Pancreas is bred less Acid; 1. By the defect of such-like Food, and Sauces, the same may be made more sour by using somewhat acid and grateful Food and Sauces, and that not by force, and in a large quantity, but long, and in a mean quantity; least by halting too much the Sick be more harmd, then profitd.

30. 2. When it is less Acid by the preposterous use of contrary things, Chalk, Coral, &c. as also fixt, or Volatil Salts; their farther use must be left off, it must at least be moderated and diminishd.

31. 3. When the same happens because of a plentiful excretion of an Acid Humor by Sweat, or Urin, endeavour must be us'd, that the Separation of an Acid Humor from the Blood, and hence an Excretion by Sweat, or Urin be by little and little diminishd; which the following Conserve very effectual to this end will most conveniently effect.

Rx. Conserv of Red Roses ζ ii. of Damask-Roses ζ i.
Common Diascordium ζ iii. or Orr Diascordium
(describ'd in Chap. 51. Sect. 22. of this Book)
 ζ i. Red Coral, Pearl prepar'd, of each \mathcal{D} iv.

H h 4

Syr.

Syr. of the Juice of Pomegranates, what suffices M. for a Conserve. [The Author prescrib'd not his own instead of the Common Diafcoridium in the former Chapters, because he had not invented it when they were printed.]

Let the Sick take 3 i. or there-about of this Conserve in the morning fasting, as much two hours before Supper, and as much at Bed-time, washing his Mouth, if he please, with a little of Wine, or any other grateful Drink, and then drinking it.

32. *The Juice of the Pancreas bred Salt like pickle in Taste,* which may be known by vomiting a Humor like it, *is to be Amended* by a long and sparing use of Medicins that correct a Serous Humor like it in our Body, and all over describ'd by me both in the former Chap. 51. Sect. 27. and elsewhere: as also by abstaining from salted Food; and hastening the Cure of a Stoppage in the Head, if there be any, least more evils succede it neglected.

33. *If the Juice of the Pancreas be bred Tart,* (which the frequent Hypochondriac Suffocation, with fear of being Strangled, as also the Vomiting of Tart Humors argues) *he must Abstain,* 1. from farther use of Tart Fruits, or Medicins; 2. All occasions of exceeding Sorrow; and grievous Terror are to be Shunn'd; yea, the Mind is to be fenc'd, and confirm'd, and govern'd against those Injuries. Lastly, 3. Volatil, and especially Aromatic Salts are to be us'd frequently, and that in a small quantity, to iv, v, or vi drops in a Spoonful of Wine; seeing that there is nothing hitherto, that I know of, doth so

As also his Oily Volatil Salt, which he never prescribes in a Mixture because it was not then expos'd to public Sale.

potently, effectually, and speedily amend and correct a Tart Humor in Man, as any Volatil, but chiefly Aromatic Salt; which I having

exceeding many times experienc'd happily do here testify and intirely commend to all Younger Physicians that need my faithful Information.

34. If the *Juice of the Pancreas* be made ill-savour'd by Matter in it mixt with it an exact and long continu'd endeavour must be us'd, that the Ulcer left in the *Pancreas* after an *Apostheme* may at length be wholly Cur'd, by taking daily *Diaphoretic Antimony*, *Mineral Bezoard*, or any other more effectual and fixt Medicine made of *Antimony*; Whose *Magisterie*, *Elixir*, or *Quint-essence* if it could be had, will do wonderful things, although they seem incredible to the most of Men, not only in this dangerous, and hard to be cur'd Evil, but even such-like found sometimes in the other Bowels also.

35. The Colour of the *Juice of the Pancreas* chang'd by Blood mixt with it may be Cur'd by the Consolidation of the Vessels of Blood corroded by a sharp acid Humor by the fore-mentiond excellent Medicines that may be made especially of *Antimony*; which also correct, and temper all Acrimony of Humors, and do much more benefit, then the slothful company of those that Hate Chymistry can conceive or admit in their Mind blinded with Prejudices. For whom let us seriously pray, that at length they may have a sound Mind in a sound Body, so long as at least that happens to be healthful to them.

36. If the *Juice* be bred more Glutinous in the *Pancreas*, that depravation may be corrected by a continual and continu'd use of more sharp Aromatics, as also of any Volatil Salt, and sometimes also of somewhat Acid more Spiritous Sales, or artificially prepar'd and elaborated with Spiritous Liquors, which also they that hate Chymistry, being ignorant, do discommend. And because I have oft mentiond and describ'd
such

such before, I remit the diligent and worthy Students of Physic thither.

CHAP. LIV.

Of the Motion of the Juice of the Pancreas, and its Effervescency with Choler deprav'd.

1. I Suppose the Juice of the Pancreas is continually separated in its Glandul's from the Mass of Blood, and is farther elaborated, and perfected with the Animal Spirits, and moves into the greater, and at length the middle Passage, and hence into the Cavity of the small Gut.

2. This Motion of the Juice of the Pancreas through the less, greater, and greatest Passage to the Cavity of the thin Gut may be deprav'd several ways, and that sometimes according to the whole Mass of the Juice, sometimes according to some part of it only: whilst there is either None, or it proceeds more slowly, and difficultly, or more speedily, because more easily.

3. I suppose the Motion of the Juice of the Pancreas through its Passages to the small Gut, is either seldom, or never wholly deficient: Which will only come to pass, if it may happen, from an Obstruction of the greatest and middle Passage by most glutinous Phlegm sticking, and in like manner coagulated and fastned about its Orifice; which can scarce remain there for a space, but would anon be loosend by the Juice perpetually coming, or the Sick be cast into present danger of Life: to which unexpected Death may not often follow, what prudent Man will deny, or by accurat observation in a Dead Body, and made beforehand by this Passage will rashly affirm.

4. I indeed remember that I have sometimes seen glutinous, and plenteous Phlegm sticking, and adhering in this Passage, and not easily giving place or to be remov'd thence.

5. None who have read those things with an attentive Mind, which I concluded in *Chap. 30. Sect. 61, &c.* of this Book according to Experience, and being to make tryal, shall recal the same things to experience by his own Sences can well deny that some part of the Juice of the Pancreas is oft hindered wholly, at least for a season, in its Motion through the left, and side-Passager, to the middle and greatest Passage, because of an Obstruction risen by Viscous Phlegm growing together in them.

6. When the Juice of the Pancreas is stopt after the same manner in certain Passages, then any may see it is all mov'd more sparingly to the small Gut.

7. The Juice of the Pancreas may be mov'd more difficultly, and therefore slowly also through its Passages to the small Gut, as oft as it is more glutinous: of which we spake in the former Chapter.

8. The same may be mov'd more easily, and so swiftly, when it is more Watry and Fluid then is wont to be, a Cause of which may be much watry and diuretical drink, such as Volatil Salts and many Mineral Waters, the Spaw, Swalbats, &c. Whence a Looseness also so frequent, most commonly beneficial seldom hurtful to the Sick, is perhaps to be deduc'd amongst other of their admirable effects; in as much as they hasten not only through the Kidneys to the Bladder, but also through the Pancreas to the small Gut: nor do they only render the Juice of the Pancreas more fluid, but also make it less sour or tart, the most frequent cause of a slow and costive Body; wherefore the Excrements are also easily diluted, and
Choler

Choler itself is hastned more then usual to its descent.

9. If at any time a Physician suspect that most plenteous glutinous Phlegm doth not only abound in the Body, but that much of the same is carri'd every whither, and so to the Pancreas, so that there is fear that the middle and common Passage of the Pancreas not only may be, but is obstructed wholly by it, by reason of extreme Anguish suddenly affecting the Sick; I cannot then think that an *Acid Spirit*, especially of Nitre, as the most piercing, but mixt with strong Wine, or its Spirit will then be ill us'd to remove such an evil; wherby the noted Obstruction may not only be Opend, but moreover the defect of the Juice of the Pancreas may be suppli'd in perpetuating an Effervescency with Choler.

10. I can easily admit that an Obstruction plac'd about the Orifice of the Passage of the Pancreas opening into the small Gut, may be immediatly remov'd by reason of the commerce of an Acid Spirit with Phlegm, by the mention'd Medicin taken in at the Mouth, and carri'd to the small Gut, (without farther transmitting it through the Lacteal Veins, the Passage of the Thorax, the upper Hollow Vein, the Right Ventricle of the Heart, the Artery and Vein of the Lungs, hence through the Left Ventricle of the Heart the Great Artery to the Pancreas) whilst this Phlegm is loosend and dissolv'd by it piercing thither.

11. The more sparing Motion of the Melancholic Juice risen from an Obstruction of the lesser Passages of the Pancreas, may be restor'd by Remedies propos'd in the fore-cited 30th Chap. Sect. 132, &c. as also in Chap. 50. Sect. 13, &c.

12. A more speedy Motion of the Juice of the Pancreas made by reason of its Watriness and Volatility, perhaps.

perhaps proceeding either from *Mineral Waters*, or *Volatil Salts* more abundantly taken may be allaid by abstaining from farther use of them, and mean while using those things that may give it a greater consistency, such as are *sharp and tart things*, oft taken in a small quantity.

13. *To the Motion of the Juice of the Pancreas vitiated* follows also the *vitious Effervescency with Choler in the small Gut*; of which because we have on purpose treated in *Chap. 11.* of this Book, what is spoken there, may be transferd hither in part, and so be red there.

CHAP. LV.

Of the Separation of Urin in the Kindeys Deprav'd.

1. **A**S the best part of Food, and that which is useful to the Body is separated from the Food taken in, and fermented in the Ventricle, being fluid, and of a milky colour, and carri'd under the name of Chyle through the Lacteal Veins toward the Heart, whilst the unuseful and excrementitious parts go away by Stool, keeping a thicker consistency; so again the *serous superfluous part is separated in the Kidneys out of the Chyle chang'd into Blood*; which whilst the principal part of Blood flows back to the rest of its Mass, it distills through their capillar fleshy parts into its Funnel, and is sent hence through the Ureters to the Urinar Bladder, so nam'd from the mentiond Serous part then constituting Urin; in which it is gatherd by little and little, till it be afterward voided again.

2. *The*

2. *The Glandulous fleshy parts* are observ'd to be shut up in the substance of the Kidneys, and stretch'd forward into membranous Pipes joind to its Funnel, and having peculiar Passages appropriated to the dropping of Urin.

3. This Urin because it is observ'd Salt even in those, (in whom the Serous Part of their Blood is found insipid) any may suspect and not without cause, that the Matter of Urin undergoes some singular Change in the Kidneys, while it is strind through the mention'd fleshy Parts; although it seem to me at least very probable that the Blood as well as Chyle is prepar'd in the Heart in its Vital Effervescency for the Separation of the Urinar Serous Part, and that the same is absolv'd in the Kidneys; although I have not hitherto attain'd the reason of it, however I think it happens after the manner of *Precipitation*.

4. *This Separation of Urin is deprav'd*; 1. When there is *None*. 2. When it is *more Sparing*. 3. When *more Plenteous*. 4. When by reason of both the *Liquor*, and what is *Contain'd* in it, it haps several ways *viti-ous* in *Colour, Odour, Savour, Thicknes, &c.*

5. There happens *No Separation of Urin* in the Kidneys oft by the fault of the *fleshy parts Obstructed*, or otherwise *ill-affected*; seldom perhaps by fault of the *Blood*, or its *serous part*, to wit, *unfit for its Separation*, and that because of a *more intire mixing of the Heterogeneal Parts*.

6. *Those fleshy parts may be Obstructed by much and glutinous Phlegm* any ways loosend in the small Gut and confus'd with the Blood, being afterward again *coagulated in the Kidneys*, together vitiating their *fleshy parts* by an *External Cold* imprudently receiv'd, and there *severing from the Blood* in part at least with the *Urinar Serous Part*, and *sticking in the fleshy parts*,

parts, and by degrees filling and obstructing their Passages.

7. The Harm com'd to the fleshy parts by external Cold, may perhaps be a straining and binding of their spongie parts, by reason of which the Phlegm dissolv'd by the Serous Liquor flowing through may the easier stick, and be stop't in them, till at length filling their Passages it may hinder farther passage of Urin through them.

8. The Heterogeneous parts of Blood are more intirely mixt, and so the same becoms unfit for a Separation of its Serous part, as oft as the Acidity of Lympha is more sharp, so that the Universal Blood grows too much together, its alone fluidness remaining.

9. This Acidity of Lympha may become sharper, both in the Conglobated Glandul's, and in the Conglomerated Glandul's of the Pancreas by an external very sharp Cold, or a great and unexpected Sorrow or Terror of Mind, the notable abuse of Acid things and thus far very sharp, first concurring and preceding.

10. The Separation of Urin becoms more sparing, by reason of the same but lighter Causes; as a Looseness, and chiefly Sweat plenteous.

11. The Separation of Urin becoms more plenteous by reason of Drink taken in and so accusom'd (which is always to be observ'd) or by reason of the fleshy parts of the Kidneys, if not, too open according to its Channels, so at least constituted, that they may separate more of a Serous Liquor from the Blood then ought, as happens in a Diabetes; or by reason of the Blood ill-affected for a Separation and sending away of the Serous part more abundant then is wont; or because of wonted Sweats, or a Serous Looseness suppress'd.

12. The Blood is ill-affected to a more plenteous dissolving of it self by the vital Effervesency after a certain

certain manner vitiated by Volatil Salts and other Diuretics plentifully taken at any time; whence the Blood is made not only more fluid, but besides less thickned, and less united according to its serous parts with the rest: wherefore Urin departs both more easily and abundantly from it in the Kidneys.

13. Upon the account of the Liquor of Urin it is observed vitiated; 1. In its Colour, when the same becomes Watry, that is endued with a consistencie and watry colour, which comes to pass by defect of its Salt and Choleric part making it more or less of a colour somewhat Yellow. For that is to be noted, that Urin consists of two parts, both Watry and Salt, which being joind together make the Liquor of Urin to have an Orange Colour, and mean Consistency. Whence after that much and especially piercing, and therefore Diuretical Drink, such as is Water, but chiefly Mineral Waters, thin and Diuretical Wine, such-like Beer, &c. is taken in, the Urin that is wont to be first and a little after voided, is observed Watry, and insipid, not only in Colour, but also in Taste: as that which comes away after the Fermentation of Food in the Stomach absolvd, is not only of a more or less yellow Colour, but moreover Salt.

14. And as this Watry Colour follows the taking in of Drink chiefly Diuretical, lately us'd in a notable quantity, and is Non-natural; so the like is observed in the beginning of Continual Fevers, and of the Fits of Intermitting Fevers, and it is then Præter-natural, denoting a Crudity, that is, a more intire mixing of the parts of Blood, and an hindred Separation of the Salt Parts with the Urin; the Cause of which is a sharper Vital Effervescency by reason of an exceeding Acrimony of the Humors flowing together, and too much thickning all the parts of Blood, the Watry excepted.

excepted. This is evident chiefly by the Fits of Intermitting Fevers most commonly rais'd with troublesome Cold; And seeing that Cold is bred in our Body by an Acid Humor, the same must of necessity be carri'd to the Heart to breed an Intermitting Fever, and so trouble the Vital Effervescency there, so that the Pulse becomes not only less, and weaker, (which depends on the Blood too much coagulated by an Acidity exceding) but all the parts of Blood are more intirely mixt together, and do then only dismiss the watry part from themselves into the Kidneys, the other, especially Salt parts, remaining in its Mass so long, till by little and little at least in part the Acid Humor being overcome, or the same flowing to the Heart in less plenty, or more temperd the Vital Effervescency is restor'd, and Choler more potent or plenteous over-rules it; on which depends the more loose union of the Humors, and anon more easie and plenteous, yea sometimes over-separation of those that are Salt like Pickle.

15. From which *the Nature and true Cause* of a so much mention'd *Crudity* in Physic, yea *Manner*, whereby it is most commonly bred, becomes more manifest; and moreover *the Nature, true Cause, and Manner* of a so much wanted *Concoction*, how it is absolv'd, is not a little illustrated: which I will endeavour now to explain in a few words, this occasion being offer'd.

16. Physicians understand *the Crudity and Concoction of Humors constituting the Mass of Blood, or mixt with it*, when concern'd about them in the examining and *Curing of Acute Diseases* especially, and that it may be to their wish, they so greatly and deservedly desire *the Concoction of the Humors*. For when *the Blood is infest'd, and ill-affected* immediatly, or by *Humors coming between* contain'd in the Body without

the Mass of Blood, as *Choler*, the *Juice of the Pancreas*, *Lympha* and *Pblegm*, then the vital *Efferescency* peculiar to it is alterd likewise, and vitiated, and indeed so, that forthwith the natural and loose union of the *Humors* that continually flow together to the Heart with the Blood is more or less troubled, whether they be more closely and intirely, or more loosely and less intirely then joind to it.

17. But when the other *Humors* are more intirely and closely joind to the Blood then is wont, then *Urin* comes forth more *Watry*, and having less of Colour and of the other things Containd: which they call *Crude*, that is, testifiers of *Crudity*.

18. And after the *Urin* is again voided more Colourd, and carrying in it more of the things Containd, it is lik'd, and call'd *Concocted*, to wit, signifying it more, or less begun, or promoted: which comes to pass when the noted *Humors*, as excrementitious and first more closely, and intirely united to the Blood, are again by degrees Separated from the same, and in part Voided together with the *Urin*: which is good, and profitable to Man; as the other was evil and hurtful. For according to Nature, and in an healthy State an Orange-colour'd Tincture at least is given to *Urin*: but no thing Containd is found in *Urin*, unless some Error be committed in Diet, or the Constitution of the Party decline more or less from the perfect state of Health.

19. If any weigh with an attentive mind all the *Humors* that are to be confus'd with the Blood, as also the proper qualities of every one, he will comply, and say with us that the more close Union of them with the Blood proceeds from an *Acid Humor*, and therefore the *Juice of the Pancreas* or *Lympha* ill affected. On the contrary their more loose union with the Blood

and

and so solution of a more close union is to be hop'd for and expelled from a Lixivial and chiefly Volatil, and so bitter Salt, and therefore Choler more potent, and bearing sway.

20. How true, yea most true are these things which I have now said, daily Experience confirms, seeing any that searches may know those things that cast Healthy People into several Diseases, and encrease them, and on the contrary restore lost Health to the Sick, that that Concoction in the Blood is hindred by the force of Acid things, endu'd with an Acidity exceeding; and that the same is promoted, and obtained by help of Aromatics, and in special the Bitter, or of Volatil Salts more temperd.

21. By reason of its Colour Urin is oft observ'd;
2. Red, which if it be Thin beside, arises from an exceeding heat that is in the Blood, a little, and only the most Volatil part of Gall being mixt with the Urin; the Separation of the Salt and Excrementitious Parts of Blood, and the Excretion necessary to begin, and absolv the fore-mentiond Concoction being hindred. For although then Choler bear sway over the other Humors, which is evident by the exceeding Heat of the Body, yet has it not a quiet, but turbulent rule, because a sharper and preternatural Effervescency is stir'd up in the Heart, more intirely uniting the flowing Humors together and with the Blood.

22. The same red Urin, if also thick in Burning Fevers as well Continual, as Intermitting, proceeds from the more plenteous Separation of the Salt, or other Excrementitious Parts, whether first Corrupted by the rest of the Mass of Blood in a preternatural Effervescency, and from their Excretion with watry parts, and so from a begun Concoction: which comes to pass, as oft as what way soever the somewhat contrary Hu-

mors, Sowr, and Salt, or Bitter, that are wont to produce a vital Effervescency in the Blood and Heart are contemperd at least in part : whence the Effervescency which was before sharper, becoms now more mild ; and the Salt parts which were before more closely united to the Blood, do now again by degrees depart from it ; and they which are now Effervescent, are more loosely united together and with the Blood ; till at length the Universal Blood, and all the Humors that are to arise from it, and to flow together again to it, are restord by little to their former and laudable Constitution, and the lost Health of Man may be repaired after a while.

23. *Urin of an obscure Red and somewhat thick, yet having no notable Heat accompanying in the Body,* is wont to denote the Jaundice, chiefly when a Cloath dip't into it is made of a Saffron Colour by it, unless it be by something taken in.

24. *Urin of a Bloody Colour* may be easily known from what has been said before, and chiefly if it have a filthy and somewhat black or grumous Settling ; which is a certain sign of Blood mixt with it.

25. Other singular and more rare Colours of Urin as Green, Wan, Black, &c. as for the most part they own singular and most grievous external or internal Causes, so are they to be compar'd with Symptoms together concurring in the Sick to know rightly the Diseases then s'lv's and thence to form Prognostication : all which to treat here were too long.

26. Urin varies not only by reason of a different Colour but also in respect of its Transparency and Dark-ness. For some is Transparent, commonly call'd Clear ; some Thick, commonly call'd Turbid or Troubled. Where note, that some is made and remains clear, or Transparent ; and on the contrary some is made, or re-
mains

main Turbid or Thick: again, some is made Clear and Transparent, and are afterward Troubled and Thick, and such either remain, or become clear again: so some is voided Turbid and Thick, and again grow Clear, which commonly comes to pass by the falling of its Sediment.

27. The most Watry, as also Yellow, and Red Urin is sent Clear and Transparent: which Transparency the Watry most seldom, sometimes the Yellow, oft Red Urin loseth: which is most frequent in a stoppage of the Head, and Fevers arising from such a like Cause, and call'd by many *Catarrhali*: And these sorts of Urin thus Troubled do oft again grow clear, the Sediment falling; sometimes they remain Troubled, to wit, when the Stoppage in the Head is yet in its encrease, neither a Fever nor any other Disease accompanying comes to it in its vigor.

28. Urin declines from its natural Odour, when it is without smell, or smells Sweet, or is ill-smeld.

29. The most Crude, or Watry Urin is without Smell, of which we spake in Sect. 13, &c.

30. Urin of a sweet Smell is seldom voided unless after certain things are taken, as Turpentine, whence it smells like Violets: whether any such thing happen at any time from Internal Causes, I now at least remember not.

31. Ill-smelling and stinking Urin doth likewise sometimes own an External Cause, for example the use of *Asparagus*; but more frequently an Internal Cause, to wit, a Corruption in the Blood, but such, by reason of which its parts remain in a slack union, yet its fat parts corrupted being the primary Subject of Odours, and therefore also of ill smells Separate with its Salt parts. Where note, the ill smell of Urin doth not so much reside in its Liquor, as in the things therein Containd.

32. *The Savor of Urin naturally somewhat Salt is chang'd; 1. When it is voided Insipid, which happens not only a little after Drink, and especially Diuretical taken in plenteously, and such a change of Taſt is Non-natural; but alſo, when the Urin is preternatural and crude; of which ſee Sect. 13, &c.*

33. *2. When Urin comes away Bitter, which proceeds from much Choler carri'd to the Heart, and very ſlackly mixt with the Blood, yea infecting its Serous part; and hence the Urin with its bitterneſs.*

34. *3. When Urin is voided Sour; which ſometimes befalls very ſorrowful and melancholic People, by reaſon of the Juice of the Pancreas; or Lympha more Sour, and infecting the Serous part of Blood, and anon the Urin alſo with its Acidity.*

35. *Of the Thinneſs and Thickneſs of Urin we have already ſpoke ſomething in Sect. 13, 21, &c. and the Cauſe of each there propos'd.*

36. *The things Containd in Urin are ſeveral, wherof ſome ſwim in its Superſicies, ſome fall to the Bottom, ſome are carri'd in its Liquor, and that ſometimes in its upper, ſometimes in its middle, ſometimes in its lower part; laſtly ſome adhere to the ſides and bottom of the Veſſel: none whereof is found in Urin according to Nature,*

37. *There are in the Superſicies of Urin Bubbles and Froaſh, Fat, and Gravel.*

38. *The ordinary Sediment, and more ſeldom mealy or Bran-like, as alſo little Threds, Scales, Gravel, Stones, fleſhy Parts, clots of Blood, Purulent Matter, Worms ſettle to the Bottom.*

39. *There is carri'd to the upper part of Urin a little Cloudineſs in the middle, that which ſeems to hang there call'd Enacremā; in the lower part a Settling, or Sediment: in which there is ſometimes much, or little Gravel.*

40. *And*

40. And this Triple Matter Containd, to wit, most frequent in the Urin of the Sick, is considerd, 1. By its *Quantity*, and is *little*, or *much*.

41. 2. By its *Colour* it is *White*, or *Red*, or *Black*, or of *another Colour*.

42. 3. By its *Substance* either *Equal*, when all the parts are equally thick and thin; or *unequal*, when some parts are thinner, others thicker.

43. 4. By its *Connexion*, either *Continual*, when all the parts are joind together; or *Separated*, when some parts are disjointed from the rest.

44. I have most frequently observd *Gravel* every wherein the Urin beheld by Me, that arose from the *Conglobated Glandul's* harmd by external Cold: and sometimes by long lying on the Back; because of which they sometimes grow together into *Stones*, as well red friable and softer; as somewhat yellow or more pale and of an *ashie*, most commonly harder and more solid.

45. *Fat swimming in Urin*, unless it arises from Oil swallowd down, oft proceeds from a *Humor Salt like Pickle more sharp*, separating the *Oily part* of Blood beside Nature from the rest of the Mass, and transferring it imbib'd in the *Serous part*, and hence in the *Urin*: whence it is observd so frequent in the Urin of *Scorbutic People*, and of others abounding with such-like Salt Humors, and by the fault of them sometimes *Pining*: and if Fevers be raisd or cherishd by such-like Humors, they are then call'd *Wasting*, because not so much the Fat that is found without the Vessels is then consum'd more then usual, as the *Oily part* of Blood within the Vessels is corrupted by the noted Humor, and is partly voided with the Urin, partly rendred unfit to repair any Fatness.

46. I deny not that the Original of *Froth and Bubbles* is causd by *Wind*; although I have oft ob-

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serv'd that a *Stoppage in the Head*, and *Catarhs* bred in the Brain accompanies them.

47. Amongst the more rare *Sediments*, a *Bran-like*, *mealy*, *scale-like*, and *such-like* oft occurring in *Burning-Fevers* are to be ascrib'd to an exceeding *Heat*, because of which certain more *earthy Particles of Blood* are farther *scorb'd*, and therefore being sever'd from the rest of its *Mass* are voided together with the *Urin*, and while it cools by little and little, they forsake it and fall to the bottom.

48. *Little Threds* observ'd in *Urin* seem to own a Matter like to *Hairs*, to wit, a *Volatil and Oily Salt* growing together into such long threds; which is not unfrequent in *Chymical Changes*.

49. *Gravel settling at the bottom of the Urin* is of all kinds, both little, and greater; both that may be crumm'd and solid; both red, and yellow, or somewhat ashic, and so coming nearer to the nature of *Stones*, yea for the most part giving them *their first rising*, and daily *cherishing and encreasing* them; for the substance of *Gravel* growing together encreases into *Stones* in hot *Urin* more slowly and more straitly then in it being coold.

50. *Wherin this force of growing together and of making Stones* consists, is not enough known; I will frely declare what I conjecture in this obscure matter, wherby I may according to my power the more help others that are Ingenious to search out this hidden Truth. All *Stones*, such at least as I have hitherto seen are *Dissolv'd in the sower Spirit of Salt-Peter, or Nitre*; whence I conclude that the *Coagulation of Stones* cannot be expell'd from an *Acid Spirit*, as such; therefore from another somewhat contrary to it in part at least. If any consider the several things, that promote a growing together of natural things, he will find that

that that force is in Tart things; whence the Glutinousness and Toughness of fluid things is wont to be produc'd; to which if Earthy, and Volatil Salt parts be joind, something breaks forth not much unlike Stones. I incline therefore to this Opinion, That an Earthy and Volatil Salt Matter joind to a Glutinous thing Grows together in Stones by help of a Tart Humor. The force of a Tart Humor coagulating is weakned by a sharp Acid, such as is found in the Spirit of Nitre.

51. *Fleshy parts* found in Urin usually arise from an Ulcer in the Kidneys, and their parts separated from the rest of the Body, and voided together with the Urin.

52. *Blood, and Clots* of it occurring in the Urin testify some Vessel of Blood in the Kidneys, Ureters, Bladder, or Urethra burst, or corroded.

53. *Purulent Matter* for the most part follows an Abscess in the Kidneys, Bladder or its Neck and Sphincter, or Urethra burst; seldom arising from a Pleurisie, or Peripneumonie, or such a like Inflammation turn'd into an Aposteme.

54. *Worms* in the Kidneys for the most part arise from Blood there corrupted, and being driven down into the Bladder together with Urin are voided.

55. Among the more ordinary things Contain'd in Urin, and taking their Original from that part of Blood which is less apt to nourish the Body, and moreover not departing from its laudable Constitution, a little Cloudiness consists of its most fat, and least earthy, and so lighter part; a Sediment on the contrary, of its least fat, and most earthy, and therefore heavier part; an Encephale lastly of a mean part, that is, partaking of each. Whence as the Matter of every thing Contain'd is more pure, so it will keep its place more accurately; and according as it is more impure, partaking

ing more or less of any thing, so every one of them doth more or less decline from its place.

56. *A greater quantity of the things Containd signifies much unuseful Matter is in the Blood, and so to be separated; as a less quantity signifies there is less of that Matter: if the other Signs agree.*

57. *These Containd things how much the whiter they be, are lik'd so much the more, and they are the signs of a laudable Concoction, that is, desir'd Alteration, or Correction, and hence Separation of the hurtful Humors in the Blood: how much the more they decline from whiteness, such as are red, and chiefly black, so much the more are they dislik'd, and they are signs of a deficient Concoction, and so of greater danger.*

58. *So an Equality of the thing Containd, and not Severd gives the sign of Concoction wanting, as the Unequal and Disjoind of a Concoction to be feard.*

59. *That we may now address our selves to the Cure of the noted Harms, the Separation of Urin deficient because of the Fleishy parts of the Kidneys obstructed may be restor'd, by Medicins that cut, attenuate, and make Glutinous Pblegm fluid; anon with Diuretics, and such things as send forward Urin.*

60. *The Medicins that cut and make Pblegm fluid, are already oft before mentiond, amongst which they here excel, which are also call'd Diuretics, whereby they may use their force sooner, and more easily, such are the Roots of Smallage, Fenel, Eringo, Parsley, &c. Leavs of Chervil, Rue, Nettle, Agximony, &c. Seeds of Hart-wort, Gromwel, Saxifrage, Parsley, Fenel, &c. Berries of Juniper, Elder, Dwarf-Elder, &c. Peach-Kernels, Bitter-Almonds, &c. Spirit of Salt, and Nitre, &c. any Volatil Sakt, of which effectual Medicins may be prepar'd and given in a different Form according to the pleasure of the Sick, and his divers Constitution.*

61. For Example the following Decoction may be us'd sometimes a day to ζ ii or iii. R. Smallage, Erin-go-Roots, of each ζ i. Leavs of Water-Agrimony, Chervil, of each M. i. Juniper-Berries, new and beaten ζ ii. Boil them in pure Water, adding to ζ xx. of what is strain'd, Syr. of the Five Roots ζ iii. Sp. of Nitre, or of Salt, what suffices for a grateful Acidity. M.

62. They who esteeme a Medicin to be taken in less quantity, may use the following Mixture. R. Parsley, Fenel-Water, of each ζ ii. Aqua Vitæ of Matthioli, or the Aminephritic Amsterdam Water ζ i. Sp. of Salt Armoniac xx drops. Oil of Juniper-Berries x drops. Syr. of the Five Roots ζ i. M. Let the Sick take a Spoonful oft in a day; and if watchings, or pains molest, add iii Gr. of Laudanum to the Mixture.

63. By these Medicins will Glutinous Phlegm obstructing the Flethy parts of the Kidneys not only be cut, but by the same means it being again made Fluid, will be mildly driven to their Funnel.

64. If the Voiding of Urin procede more slowly, after either of the mentiond Medicins has been taken for several hours, the Sick may commodiously drink a good quantity of the Mineral Diuretick Waters, (such as are of the Spaw, Sualbac, and others) whether they be us'd pure, or the 4th or 5th part of old Wine and also Diuretical * be mixt with them.

*Or rather dropping a little of his Oily Volatil Salt in the Waters.

65. When plentiful and glutinous Phlegm are together in the Body, then it being so prepar'd and loosend with convenient Phlegmogues, of which we oft made mention before, may be diminish'd and carri'd out.

66. If external Cold ill affect the Region of the Loins, and therein the Flethy part of the Kidneys, their ill Constitution may be amended again by Aromatical Sudorifics

fies and Volatil Salts, but rather us'd at repeted times then together and once only ; for so Sudorifics do not only carry out the fluid Humors, but besides alter, and amend the Containd Parts.

67. *The Acidity of Lympha, and the Juice of the Pancreas* howsoever encreas'd may be again corrected and diminish'd by a frequent taking of Volatil Salts daily to be us'd in a small quantity.

68. But when *this encreas'd preternatural Acidity* is occasion'd by external Cold, endeavour must be made again, that the Harm entred through the Pores of the Skin into the next parts, and the Blood it self, and chiefly both Glandul's be again allayd, or remov'd by the fore mentiond Sudorifics us'd prudently and at times.

69. But when the same is done by great and unexpected Sorrow or Terror of Mind, the Mind is to be freed from both Passions, and besides to be corroborated and fortified against such assaults, and that by solid Reasons ruling the Mind.

70. As oft as the encreas'd Acidity of Lympha, and the Juice of the Pancreas follows the abuse of over-sweet Food, Sauces, or Medicins, so oft they are to be abstain'd from, at least their use is to be much diminish'd, and those things that temper, dull, and allay, or weaken all Acidity are to be us'd, which we have oft propos'd before.

71. *A more sparing Separation of Urin* as it owns sometimes the same Causes that its Defect owns but lighter ; so it may be Cur'd by the same but likewise milder Remedies to be us'd in less plenty, or in a shorter time.

72. But when the Separation of Urin is more sparing because of a plenteous Looseness, or Sweat, the same may be Cur'd either, or each of them being cur'd : of which

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which we spake before, and shall speak more anon.

73. *A more plenteous Separation of Urin caus'd by the vitious Constitution of the Fleshy parts of the Kidneys according to their Channels, or Substance, may be cur'd by Medicins that straiten the slackness of their channels, and amend the harm of the Substance of the fleshy parts.*

74. *External things appli'd in the form of a Plaster to the Region of the Loins, where the Kidneys are, and made of more mild corroborating and astringent things will most opportunely straiten the slackness of the Channels in the Fleshy parts of the Kidneys: By the help of which Medicins the harm of those Fleshy parts may be corrected and amended.*

75. *The Blood more fluid by Volatil Salts and other Diuretics taken in too great a measure, and being ill-affect'd to a more plenteous dismissal of its Serous part may be restor'd partly by abstaining from farther abuse of those things noted, partly by using more temper'd part Things. For Example; R. Plantane Water $\bar{\zeta}$ iii. Cinamon-Water $\bar{\zeta}$ i. Sp. of Alume xx drops. Syr. of Myrtle-Berries $\bar{\zeta}$ i. M. Let the Sick take one Spoonful of this Mixture twice or thrice daily.*

76. *The wonted Sweats, or a Serous Loosness suppress'd, may be suffer'd, as long as they do not harm the Sick, who suffer no inconveniency by a more sparing voiding of Urin: Otherwise several Diuretics according to the divers Constitution of the Humors that are in the Body, wherby a greater plenty of the Serous part may be reduc'd to the Kidneys, and other harms be shund.*

77. *A Watry Urin made a little after Food, and chiefly after more plenteous and Diuretical Drink taken in, seeing that for the most part it portends, or breeds no harm, requires no Cure.*

78. *The*

78. *The Watry Urin* which is a sign of *Crudity* that is, of a *Concoction* deficient in the *Humors* of the *Blood*, as oft as *that Voluntary Concoction* is expected in vain, or comes too late by Nature, so oft it is to be promoted by Art, and that by Medicines mildly tempering all, and chiefly the *Acid Acrimony* of the *Humors* (whence comes to pass that more intire mixing of the *Humors* in the *Mass* of *Blood*) and again loosening the close union of the *Humors*.

79. *The fixt Sulphurs of Minerals and Metals* exalted to their highest perfection do before all others mildly temper all and even the *Acid Acrimony* of the *Humors*: next to which *Oily Volatil Salts* come, and *Aromatics* next to these: by the force of which presently us'd exceeding Mans capacity in many things not only an Effervescency of somewhat-contrary *Humors* most agreeing to Mans Nature is bred in the small Gut, and Heart; but the *preternatural* growing together, and uniting of the more sharp *Humors*, but first moderated by them is again dissolved in the *Blood*. I speak these things of great moment in the Practice of Physic by experience, and commend them to the truly Studious of Physic.

80. *A red, and thin Urin* arising from *Choler* more volatil, and sharper, or such a like external Cause may be corrected beside the shunning of external Causes encreasing heat in the Body, by Medicines that temper the Volatileness and Acrimony encreased of *Choler*; which all the somewhat-Tart and more benign *Acids* us'd oft and for some time in a small quantity perform.

81. *A red and thick Urin* befalling the Sick in Burning Fevers, as it signifies a *Concoction* begun, so ought it not to be troubled or chang'd by Medicines; yea rather, when this Work of Nature goes on slowly, it is to be helped by the Medicines mentiond in

Señ.

Señ. 79, to be selected according to the Diversity of the Symptoms and Humors.

82. *Urin of a dark red and somewhat thick,* denoting the Jaundice, is of its own accord amended the Jaundice being Cur'd.

83. *Bloody Urin,* testifying a Vessel of Blood harm'd in the Kidneys, Urin, or Bladder, or its Neck, or passage through may be amended, the wounded part being heal'd and consolidated: To which end the following Mixture oft taken by Spoonfuls may avail.
Rc. Parsley, Plantane-waters, of each ʒ i. lb. Cinamon, water ʒ lb. Dragons-Blood ʒ lb. Laudanum ii Gr. Sp. of Nitre dulcifi'd x drops, or distild Vinegar ʒ ii. Syr. of Myrtle-Berries ʒ i. M.

84. *Urin Clear, and more or less Red, or becoming Turbid a little after,* as it certainly testifies a Stoppage in the Head, and a Catarrhal Fever, so requires that the Cure of it be instituted, and that being absolv'd is restord.

85. *The Odour of Urin* variously chang'd by several things taken in, the same being omitted it returns to its natural state.

86. *Ill-smeld Urin* by a corruption of the Blood communicated to it with purulent Matter may be corrected, the corruption of Blood being corrected, and the Ulcer breeding Purulent Matter being Cur'd.

87. *Urin Insipid,* when it is also *Unconcocted,* may be corrected the Crudity of the Humors in the Blood being remov'd: of which see *Señ. 78, 79.*

88. *Bitter Urin* may be corrected by more abundant deducing *Choler* by Stool with Choliagogues: of which we have oft spoken before.

89. *Acid Urin* may be corrected by a moderat use of any *Volatil* and chiefly *Aromatic Salis* continu'd for some time, being very convenient for Melancholic People.

90. Gravel every-where occurring in Urin, and testifying that the Conglobated Glandul's are ill-affected by a frequent external Cold, or sower things taken in, will disapper the Disease of the noted Glandul's being cur'd, and that by more temperd Aromatics and Volatil Salts us'd long enough; seeing this Evil is wont to be bred, and encreasd in length of time.

91. But when greater Gravel comes forth, falling to the bottom, and beginning and cherishing the production of Stones, those things that dissolv Stones are to be us'd, beside Oily Volatil Salts; amongst which we deservedly attribute the first place to Spirit of Nitre, seeing Stones are so easily and manifestly dissolv'd and broken in two.

92. The Spirit of Nitre may commodiously be mixt in ordinary Drink, Beer, Wine, Broths, &c. to a light acidity, and be long us'd; whose excellent Effect all may admire.

93. Fat swimming on the Urin, most commonly the individual Companion of a more grievous Scurvy may be remov'd, the more sharp Humor Salt like pickle being amended, by any Volatil, but chiefly Oily and Aromatic Salts to be taken at Dinner, and Supper in a Glas of Wine to some drops.

94. Froth remaining in the Superficies of Urin, when it arises from Wind, which is evident besides by other signs of Wind, will depart, the Wind being cur'd, of which before in Chap. 14. Sect. 56, &c. and elsewhere.

95. If Froath be a sign of Catarrhs in the Head, which also ought to be concluded from other signs compar'd, the Cure must be directed to them, both by things altering the Humor vitious in quality and strengthening the Head, and by Hydragogues that remove and carry out the Humor peccant in place.

96. A Mealy, and Bran-like, or such-like Sediment observed

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observ'd in Burning Fevers, these being cur'd, will by little and little cease to come forth.

97. *Little Threads* voided with Urin will yield to *Volatil Acids* cautiously us'd, such as are the Spirit of Nitre, of Salt, &c.

98. We said a little of the Cure of *Gravel and Stones* in Sect. 91, 92. which may be seen there.

99. The Cure of *Fleshy parts settling in Urin* depends on the Cure of an Ulcer that is in the Kidneys; which may perhaps be more happily absolv'd by daily taking in Balsam of Sulphur made with the Oil of Amber, or of Juniper to iii or iv drops, then by any other Medicin hitherto known.

100. We have already in Sect. 83. set down the Cure of Urin Bloody, and having Clots of Blood falling to its bottom.

101. *Purulent Matter* will cease to settle in Urin, the Ulcer wherever it is being Cur'd; to which purpose the Balsam of Sulphur mention'd in Sect. 99. may serve; till Oils prepar'd of the Sulphur of Antimony by distillation be expos'd to public Sale.

102. All things contrary to Corruption serv to Cure *Worms*, both *Aromatics* chiefly the Bitter, and more mild *Acids* long us'd: among which they are here to be prefer'd, which are also Diuretical.

103. Amongst the more ordinary things Contain'd, a plenteous Cloudiness and inclining to redness or blackness, as it demonstrates the Excrementitious and more fat Part of the Blood, so it requires Medicins that correct and diminish it, to wit, somewhat-sour Things and Diuretics, or more weak Sudorifics.

104. A Plenteous Enzorema hanging in the mid-dig of Urin, somewhat red, or black, and Unequal, and Separated, teaching us that an excrementitious Humor of a middle nature being begun either to abound, or to

be corrected, yet more slowly corrected, indicates its Alteration, and hence Separation, and Excretion by Stool, Urin, or Sweats : which may be done by somewhat Acid things joind to Volatil Salts, or more mild Aromatics, and hence by Purgers diversly mixt according to the diversity of the Diseases and Symptoms, as Cholagogues, Phlegmagogues, and Hydragogues, and also Diuretics, or Sudorifics likewise mixt, or temperd.

105. Lastly, The Sediment falling to the bottom of Urin, and likewise Plenteous, inclining to redness, or blackness, unequal and separated, as it witnesseth an Excrementitious Humor more earthy and glutinous, as well to abound in the Blood, as to Depart more slowly from it ; so it requires that the same should be corrected by cutting and attenuating things, especially Aromatics and Volatil Salts, seldom to be corrected by somewhat sour things, and to be prepar'd for its Separation, yea afterward to be diminish'd by Phlegmagogue, and to be driven forth slowly, and mildly chiefly with Urin, sometimes by Diuretics, and Sudorifics, not by force, but taken at several times.

CHAP. LVI.

Of the Descent of Urin from the Kidneys through the Ureters, and Passage into the Bladder deprav'd.

1. **T**He Urin Separated in the Fleshy parts of the Kidneys by the Blood returning and strain'd into the Funnel descends naturally through the Ureters into the Urinar Bladder thence call'd

2. This Descent and Passing of Urin into its Bladder out of the Kidneys is sometimes hinder'd, and chiefly by

by a straitness in the Ureters, as well where the Ureters are continu'd to the Funnel, as where they are implanted in the Bladder between its double Coats.

3. A straitness hindring the passage of Urin through the Ureters is oft an Obstruction by a Stone sticking in the Funnel and stopping the entrance of the Ureters; seldom by the same filling their joining with the Bladder: sometimes Urin is stop't longer in the Ureters by one great Stone, or many mean ones filling the Cavity of the Bladder; by which I have oft seen the Ureters then by degrees enlarg'd and distended, oft admitting a thumb, and containing in them Urin up to the Kidneys.

4. I scarce think this passage of Urin can ever be hindred, at least long by a Stone sticking in the Ureters, seeing I have found sometimes in the middle of the Ureter enlarg'd more there then elsewhere, a Stone near the bigness of a Doves Egg, by the sides of which Urin descended freely; which was thence evident, because that no Urin was containd in the same Ureter, and no where, unless where the Stone stickd, was the Ureter distended.

5. This Passage of Urin may also be hinderd by any Tumor filling the place of the Ureter with the Bladder, and more straitning its entrance there according to Nature strait enough.

6. Seeing all this straitness proceeding both from a Stone and Tumor, cannot be cur'd unless they be cur'd; its Cure must be expected from their Cure: although all great Tumors there are more seldom cur'd, both because Men soon die the Urin being suppress'd on both sides, and because Medicins keeping their efficaciousness cannot be directed thither without difficulty.

CHAP. LVII.

Of the Retention of Urin in the Bladder, and its Excretion through the Passage call'd Urethra deprav'd.

1. **U**Rin is for some time gatherd according to Nature in its Bladder, till being grievous in plenty or quality it stir it up to unload it self through the Passage.

2. *The Sphincter Muscle* plac'd round about the Orifice of the Bladder and binding it servs for this voluntary Retention of Urin, as *the Fibrous Coat of the Bladder* servs for its Excretion wrinkling its whole Substance and straitning its Cavity, and so pressing forth the Urin containd in it through the Passage.

3. This Retention of Urin is deprav'd, when it floweth involuntarily in Incontinence of Urin; its Excretion is deprav'd, when, 1. it cannot be voided although the Sick most endeavour it, in *Ischuria* and a Suppression of Urin; or 2. it is expeld plenteous enough not without great endeavour, heat and pain in *Dysuria* and Heat of Urin so call'd; or 3. though a continual provocation to make Water doth urge, yet coms Urin away only by drops and by little and little in the Dropping of Urin, or *Strangury*; or 4. It is pourd sometimes into the Cavity of the *Abdomen*, sometimes out of the Body, not through the Passage, but another way, a *Wound*, or *Ulcer* being in the Bladder, or Passage.

4. *An Involuntary Voiding of Urin* owns oft for its Cause a *Palsie*, or great *Wound* of the *Sphincter*; whence the Sphincter ceases to be contracted, and the Orifice of the Bladder to be shut; wherefore Urin distills

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stils of its own accord, or is driven forth by the Bladder contracted.

5. The same comes to pass sometimes in grievous Distempers, as the *Epilepsie, Apoplexie, Syncope, Astonishment*, as also *Drunkennes*, in which all the Senles, especially the Internal, are so troubled, or weakned, that no Animal Spirits, or those only troubled are carri'd to the *Sphincter* of the Bladder and its Fibrous Coat; wherefore Urin is either not retain'd, or only confusedly and inordinatly, and so involuntarily then retain'd, and again voided.

6. Urin is wholly suppress'd in *Ischuria*, 1. When the Orifice of the Bladder, or Channel of the Passage is frain'd by an Obstruction, Compression, or Growing together.

7. Each is Obstructed oft by a Stone sticking in it; seldom by Phlegm thickend or Clots of Blood; or an excrescency of Flesh out of the bottom of the Bladder through the Passage, and stopping it; (as several years ago I saw a stupendous example of that thing at Amsterdam in a Woman at length miserably deceas'd of this Disease by reason of a conjoind loss of Blood) oft by a Fleshy part growing in the Chanel of the Passage and filling it.

8. The Orifice of the Bladder or Chanel of the Passage is prest by a Tumor, and that chiefly hard next it, by an Inflammation, or Scirrhus, &c. as also by bands binding the Yard more closely.

9. As well the Orifice of the Bladder, as Chanel of the Passage grow together, where they have been wounded or fretted, both by more sharp Stones, and by more sharp Humors.

10. 2. The Voiding of Urin is Suppress'd, when there can be no Contraction of the Bladder, and because of the Palsie thereof, and because it is extremely Fild and

Distended by Urin too long held in ; which doth not only happen to such as Rave by Drunkenness, or a grievous Disease, but sometimes even to People of Reason, or to an Infant for shame, and to its harm so long stopping Urin preposterously, till the Bladder being too much distended by it, cannot be further contracted to Expel the Urin.

11. In the *Dysurie* Urin is voided in a quantity large enough by a great endeavour, but with heat and pain accompanying, by reason of the *Orifice of the Bladder*, or the *Urinar way* wounded, or ulcerated, but affected with burning pain at the Out-let of Urin, and not letting it out unless with difficulty.

12. Those parts are wont to be Corroded or Ulcerated both by sharp Humors joind to the Urin and corroding them, and by more great sharp Stones cutting it in a difficult passage, and occasioning an Ulcer anon to follow of its own accord.

13. In the *Strangury* there is a perpetual irritation to extrude Urin scarce voided in the least quantity by the internal Superficies of the Bladder corroded or ulcerated, and not enduring to be touchd of any thing coming to it unless with an exceeding pain and notable trouble, yea continually stirring up, and forcing the whole Body of the Bladder to contract it self, and anon expel what is receivd in though never so little by drops and slowly.

14. The Internal Superficies of the Bladder is fretted, and Ulcerated by sharp Humors carri'd thither, and by Stones, the sharp especially sticking there, and by degrees cutting it upon a vehement motion, agitation and concussion of the Body.

15. Urin flows out of its Bladder through unwonted ways, when it is either burst asunder, or otherwise wounded, or perforated with an Ulcer.

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16. It is easily burst *asunder* by *Chance* into the Belly, when the Bladder is turgid with Urin.

17. The same is *Wounded* by *accident*, or *endeavour* and art. By *accident* by a Sword, Knife, Gun, &c. and that maliciously or by chance. By *Endeavour* by a Lithotomists Knife.

18. *Ulcers* either succede the preceding Wounds, or procede from the corroding Acrimony of the Humors, or a Stone cutting it, or an open Inflammation.

19. As oft as *Wounds* or *Ulcers* pierce through the Bladder, so oft Urin flows into the cavity of the Belly.

20. So oft as *Wounds* or *Ulcers* are in the Neck of the Bladder, and they are not open internally, but externally, so oft the same Urin is effus'd without the Body; as also when there is a *Wound*, or *Ulcer* in the Passage piercing through it.

21. As for the Cure of the mentiond Evils, it shall be taught elsewhere, when the *Palsie*, or a *Wound* of the Sphincter ought to be cur'd.

22. So also we will not in this place, but elsewhere set down the Cure of the *Epilepsie*, *Apoplexie*, *Syncope*, *Astonishment* or *Drunkenness*.

23. *Stones* stopping the Orifice of the Bladder are either to be repeld with a Squirt, if more great; or are to be expeld forth by Drink, and that Diuretical being taken more freely.

24. The same sticking in the Passage, it being fistened and enlarg'd by a convenient Fomentation, they are to be mov'd forward by Diuretic Drink largely taken; or if the Stone be more great, it is to be open'd, and the Stone drawn out, the Wound thence arising being consolidated.

25. *Pilegm* grown together and sticking to the Orifice of the Bladder after, then to the Channel of the Passage, is to be cut and attenuated by a convenient Li-

quor squirted in, wherby it may be the easier voided together with the Urin.

26. To this end *Aromatics* boild in Water or Wine may conduce; to which *Volatil Salts* may commodiously be mixt.

27. *Clots of Blood* may be dissolv'd by the same; if endeavour be together us'd, that new Blood be not continually effus'd; which may be done by those Medicins that hinder the efflux of Blood, and Consolidat Vessels harm'd: such as we oft prescrib'd before, and in special in Chap. 55. Sect. 83.

28. An excrescency of *Flesh* out of the bottom of the Bladder is hard to be Cur'd, unless by squirting a consolidating Decoction into the Bladder through a Syringe.

29. A Compression as well of the Orifice of the Bladder, as of the Chanel of the Urethra by any Tumor will of its own accord be Cur'd the noted Tumor being Cur'd: as also that compression made by bands, by untying them.

30. When the Chanel of the Passage call'd Urethra, or the Orifice of the Bladder is grown together, it must be bored, a fit Instrument being mildly thrust in; and the same, if hollow, is to be left there so long coverd with a Consolidating Ointment, or Plaster, till the fear of a new closing be remov'd.

31. The Palsie and slackness of the Substance of the Bladder may be cur'd by Medicins to be prescrib'd in the following Book.

32. An extreme Distension of the Bladder by Urin too long held in, may be Cur'd by thrusting in a Wax Candle, being first oild, through the Urethra to its Cavity, and again anon by drawing out the same; or if the Matter do not so succede, by thrusting into the Bladder a Silver, or Leather Squirt, or one made of Whales

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Fins more truly to be call'd then Bones, and also oild, and letting out the Urin through it.

33. In a *Dysurie* the Orifice of the Bladder, or *Urinar Passage* fretted or ulcerated, may be Cur'd as well internally by the Balsam of Sulphur with Oil of Anise, Amber, or Juniper taken to 2 or 3 drops twice or thrice daily in a convenient Liquor, Metheglin, Spanish Wine, or in a *Vulnerary Decoction*, as externally the same being Syring'd in to several drops in such a like Decoction, and for some time kept in the Bladder, or Passage harind, the hand being prest about the Nut of the Yard, and that often renewing it daily.

34. If the *Humors* corroding, and *Acid* or *Salt* like *Pickle* be still carri'd down into the Bladder, they are to be Correlated with Crabs-Eyes, Pearl, &c. and chiefly with Volatil Salts often daily us'd in a small quantity in a convenient Liquor.

35. The same in part at least temperd, if moreover they abound in the Body, are to be diminishd, and evacuated with *Hydragogues*.

36. The Medicins before mentiond, may also conduce in the Cure of the *Strangury*.

37. The Bladder burst asunder, or Wounded, or Ulcerated in its inner parts is Incurable.

38. The Bladder Wounded, or Ulcerated from without, may be Cur'd by Medicins appropriated to consolidate Wounds, and cleans Ulcers, to be propos'd elsewhere. Which is also to be understood of curing a Wound, or Ulcer of the *Urethra*.

CHAP. LVIII.

Of a deprav'd Excretion of Sweat.

1. **A**S Vomiting, so also *Sweating* seems not to me a *Natural Excretion*, but either *Non-natural*, or *Preternatural*, or *Physical*; and that either *Artificial*, or *Critical*.

2. I do not judg *Sweat* to be a *Natural Excretion*, because in *Healthy People* moderatly using the *Non-natural things* I have not hitherto observd any *Sweat* breaking forth.

3. I judg the *Excretion of Sweat* to be *Non-natural*, as oft as a *Non-natural thing* exceeding the *Golden Mediocrity* mov's it, as hot or rainy *Weather*, much *Meat*, or *Drink*, and chiefly hot; a more vehement *Motion of Body*, a great and burning anxiety of *Mind*, &c. which ceasing *Sweating* ceases again.

4. I judg a *Sweat Preter-natural*, which is raisd by the *Humors corrupted*, or by *Poison* taken in, weakening or killing a *Man*.

5. I call a *Sweat Physical*, which is either *Critical* driven forward for the profit and health of the *Sick* of its own accord by the *Humors* that are in *Man*, or *Artificial* by *Art* by *Medicins* taken within the *Body*, or us'd outwardly as a *Bath*, *Rubbings*, &c.

6. This *Excretion of Sweat* is to be thought *deprav'd*, 1. when a *wonted* and neither *troublesom* nor *hurtful* *Sweat* to the *Party* is *wholly*, or in *part* *bindred* whence-soever.

7. 2. When a *Non-natural Sweat* is *suddenly stopd*.

8. 3. When a *Physical*, or *Critical*, or *Artificial* *Sweat* is more, or less hinderd.

9. 4. When *some of these Sweats* is so *urg'd* and *encreas'd*, that a *Man* is worse by it.

10. 5.

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10. 5. When a Sweat breaks forth much weakening a Man with, or without a Fever.

11. 6. When an Insipid Sweat, which is wont to be most usual and not in the least hurtful, breaks forth Salt, or Bitter, or Sour.

12. A wonted Sweat not hurtful befalls a Man in a neutral state, and so to one that is less healthy, and it follows (at least in my esteem) such a Constitution of the somewhat-contrary Humors departing from a laudable Mediocrity, by which an Effervescency producing a useful Sweat may be rais'd, and so preserving the Blood from a corruption that might breed a notable Disease: seeing that it being hindred, or remov'd, the same Man is easily overtaken by a grievous Disease: which is hindred wholly, or in part by more grievous or lighter Causes to be propos'd in the following Sect.

13. 2. A Non-natural Sweat is suddenly stop'd both by the external Cold of Air, Water, a Shirt, Bed, or other Coverings, or Cloaths entering into the Body running down of a Sweat, and every where open through the Pores, and not only binding them, but moreover bringing a notable Change, to wit, a Coagulation, or some other hurtful thing to all the Humors much mov'd every way through every Vessel; and by the alone removing of Coverings, or Cloaths and making the Body naked; and by a sudden rest of the Body much mov'd before; and by an unthought-of Terror stopping, or at least troubling any motion of the things Contain'd.

14. 3. A Physical, and as well Critical, as Artificial Sweat is more, or less hindred by the same external Cold imprudently receiv'd into the naked Body, or by a grievous and unexpected Motion of Mind, chiefly by an astonishing Sorrow or Terror.

15. 4. Any Sweat of it self hurtless or useful may
be

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be too much *urg'd*, and *encreas'd* by *Air* more hot by Nature, or Art; by *Food*, especially such as may be drunk, taken plentifully, or hot; by a vehement *motion of Body*; by *moelling Anger and Care*; by *Cloaths* almost oppressing the Body, and by potent *Sudorifics* imprudently us'd.

16. 5. *A Sweat* coming forth of its own accord *with or without a Fever*, and *weakening a Man*, and therefore *preternatural*, seems to arise from a vicious Effervescency of the Humors flowing together to the small Gut, and breeding a *dissolving*, and *cutting Liquor*; by which carri'd to the Heart the universal Mass of Blood is so chang'd, and dissolv'd, that its Serous parts do easily separate from the rest and break forth through the Pores of the Body in the form of a Sweat.

17. I judg that this *Liquor* doth most resemble a *somewhat-Acid Volatil Salt*, seeing that Sweat is easily sent forth by one like it.

18. 6. *A Salt* (but like Pickle) *Sweat* breaks forth from *such a like Serous part* being in the Blood: as a *Bitter Sweat* from *Eboler* keeping its bitterness, and mixt with the Serous part of Blood: but an *Acid Sweat* from *Lympha*, or the *Juice of the Pancreas* more *sour*, and keeping its taste in the Serous part of Blood.

19. *A Diminisher*, or *Suppress* wholly harmless, or useful Sweat may be *encreas'd*, or *restord*, 1. By removing all its Causes. 2. By stirring up Heat in the Air. 3. By covering the Body with warmd and sufficient Cloaths, or Coverings. 4. By giving Food, and chiefly such as may be Drunk, both plentiful and hot, as Broth, Wine, Beer, and such-like. 5. By moving and stirring the Body again (preposterously given to rest) as much as strength shall permit. 6. By driving out of the Mind great Sorrow and Terror by effectual reasons. 7. By using Sudorifics, especially the liquid, and spiritous.

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8. By using a moist, or dry Bath, when the Matter permits.

20. A Sweat too much increas'd, or of it self burtsul, and more and more weakening a Man may be lessend, and at length remov'd, 1. By keeping the Body meanly coverd, yet not naked; 2. By bewaring of the Volatil, and also Spiritous Acid Salt; Yea, 3. By using those things that fix an Acid Salt, Chalk, Coral, &c.

21. By this means I prescrib'd the following Conseru, or one like it oft-times this year 1670. to several Sick cast by the Epidemic Fever so mortal to this City the year before into a daily Sweat, and especially troublesome in the Night, and daily more and more weakening them; by which taken twice, or thrice a day to the quantity of a Nutmeg, they were by degrees freed as well of the unseasonable Sweat, as of the Quartan Fever, and any other, if any remaind, and so recoverd strength. R. Conseru of Red Roses ʒ ii. Confection of Jacinth ʒ i. Diascordium ʒ ii. Red Coral prepar'd ʒ ii. Syr. of Myrtle-Berries what suffices. M. for a Conseru.

22. But instead of the commonly sold Diascordium call'd Fracastors, seeing it is wont to be given to ʒ i. and ʒ iv. and is therefore loath'd by several Sick People, whilst I lay weak the former Winter, I invented another Preparation and Form of Diascordium, and causd it to be made; the Dose of which, is from Gr. xv. to ʒ i. and so much less then the Dose of Fracastors, but of much greater efficacy and effect in all cases: as all that use both may experience with me. Wherefore I freely add here for an Overplus the Description of Mine, (which is commonly us'd both in Holland, and in the most noted Cities of England; as also all his other Prescriptions in this Book.)

The

The Diascordium of Sylvius.

1. *Rx. Gentian-Root* ʒ ʒ. *Angelica-Root* ʒ ii. *dried Leavs of Scordium* ʒ ii. *of Carduus, of Dittany of Crete, of each* ʒ ʒ. *best Saffron* ʒ ii. *the true Acacia* ʒ i. ʒ. These being cut and grossly bruised, pour on them the rectifi'd Spirit of Wine till it be three or four fingers breadth above them. Let them stand 24 hours in a warm place, then pour out the Tincture, and so oft pour on, digest, and pour out more Spirit of Wine, so oft as need requires to extract all the Tincture and Vertue. All the Tinctures being put together after the dregs have settled, if there be any, may be pourd out slowly clear, and pure from them, and the Spirit of Wine should be separated and drawn from it again in a B. M. to the consistence of a more liquid Extract or Julap. Which may serve for the like use, or be happily mixt with other Medicines instead of an Aromatic Spirit.

2. *Rx. Opium of Thebes* as much as you please; to this mildly dried pour on distild Vinegar till it be four fingers breadth deep. Let it stand in a warm place so long, till a red Tincture be drawn; which is to be pourd out, and kept apart, till in like manner the rest of the Tincture be extracted out of the rest of Opium. Let all the Tinctures growing clear after a settling be pourd out from the Dregs settling, and be likewise deduc'd with a slow Fire to the consistence of a more soft Extract, or more fluid Syrup.

3. *Rx. Masterwort-Root* ʒ i. *Cassia Lignea, best Cinnamon, of each* ʒ ʒ. *Nutmegs* ʒ iii. M. to be a most thin Powder.

4. *Rx. True Bole Armoniac* ʒ i. ʒ. beat it alone and sift it, then smooth it into a fine Powder on a Marble Stone.

5. *Rx.*

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5. R. Gum Arabic wrinkled like a Worm $\frac{3}{4}$ lb. Dissolve it in Fenel Water $\frac{3}{4}$ i. or i. lb.

6. R. All the first Extract. Of the Extract of Opium $\frac{3}{4}$ ii. Both Pouders. Mix these together, adding by degrees the Gum Arabic dissolved. Beat them well together, and if its Consistencie seem too solid, add Syr. of Myrtle-Berries as much as sufficeth. M. to be an Opiat according to Art.

23. If any please, they may reduce part of this Opiat with a most gentle Fire in a Tin or Glass-Vessel to the Consistencie of Pills, and keep it apart so prepar'd, whereby three or more Pills may be made of xv Gr. or there-about to be swallowd; which many greatly desire in moving a Sweat.

24. But any prudent Physician may easily reduce the Opiat it self tough enough into Pills, some Grains of Mineral Bezoard, Diaphoretic Antimony, or of any other Sudorific Pouders being added, and so give them to their Patients.

25. A Sweat salt like pickle breaking forth may thus far be amended by Medicins that Correct the Salt like Pickle, oft propos'd before, and sometimes by such as will Carry it out by Stool.

26. A Bitter Sweat requires that Choler should be Diminish'd by Cholagogues oft mentiond.

27. The Matter of a Sour Sweat may be Concentrated or Temper'd by Coral, Chalk, Crabs-Eyes, and such-like, and after that be Carri'd out and Lessend by Hydragogues downward by Stool.

F I N I S.

Advertisement.

HAVING experienc'd the Authors so frequently extold *Oily Volatil Salt*, how efficacious it has prov'd in several Desperat and Chronic Diseases; I thought it convenient to signifie to the Reader, that the Author, beside what he says of it in this Book, commended it in his public Readings in Curing the *Small Pox*, *Kings-Evil*, *Palsie*, *Apoplexie*, *Convulsive-Fits*, *Falling-Sickness*, *Worms*, *Green-Sickness*, *Difficult Travel*, &c. in which two last I have experienc'd it stupendious; which may also be farther confirm'd by several other Physicians in *London* that buy this Medicin of me. I have expos'd it to Sale at Mr. *Brabazon Aylmer*, Bookseller, at the three Pigeons in *Cornhil*, and at Mr. *Thomas Burrel* at the Golden Ball under *St. Dunstons-Church* in *Fleetstreet*, in Ounce and Half-ounce Bottles, the Ounce at 6 s. the half at 3 s. Seald with a Lion Rampant, and no where else in *London*.



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